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A PROGRESSIVE GEOGRAPHY

BY

C. B. THURSTON, B.Sc., F.R.G.S.

HEADMASTER OF ISLEWORTH COUNTY SCHOOL

AUTHOR OF "AN ECONOMIC GEOGRAPHY OF THE BRITISH EMPIRE," ETC.

BOOK IV

EURASIA

REVISED EDITION

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BOOKS BY

C. B. THURSTON, B.Sc., F.R.G.S.

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PREFACE

This series is not an experiment, but rather the outcome of many experiments to find a course of geographical teaching suited to the needs of the majority of the pupils of a secondary school of modern type; that is those who enter the school at the age of eleven and stay for five years, during which time they devote two or three lesson periods a week to geography.

The course has two objects, the former being regarded as the more important:

(1) to arouse an active and intelligent interest in the world, its peoples and their problems;

(2) to give a sufficient knowledge of the technique of the subject to enable pupils to pass the General School Examination at the end of the course and to carry their studies of formal geography to a higher stage if they so desire.

Book I covers the first year's course and deals with the *school locality* and the *British Isles,* the author believing that without a clear understanding of the principles of geography as shown by first-hand examples the study of distant lands is bound to be of little permanent value.

Book II commences the continental studies with *Africa,* this being chosen on account of:

(1) the relative simplicity of its physical structure;
(2) the symmetry of its climate and vegetation belts;
(3) the close relationships it exhibits between geographical environment and human activities;
(4) its striking contrasts with the homeland;
(5) the large British interests in Africa, affording examples of the various activities of white men in the lands of other peoples.

Australia follows naturally, affording many comparisons with Southern Africa, but introducing a new " colour problem," while *New Zealand* makes a very interesting and relatively simple geographical study suitable for the early parts of the course.

of Asia at various times through the north-west passes, and although unable to conquer the settled peoples of the plain passed on with their flocks and herds to the poorer regions of the Deccan, where they overcame and mixed with the Dravidian peoples.

The great Mohammedan invasions of the eleventh and twelfth centuries brought new rulers and a new religion to India, but made no great changes in the people. Similarly the coming of the British in the eighteenth and nineteenth centuries, first as traders and then as rulers, after the conquest of the Mohammedan Mogul Empire, brought a new form of government to India, but even now there are only about a hundred thousand British people in the country. The native peoples are being gradually educated in western ideas of government, and it is hoped that ultimately India may become a self-governing portion of the British Empire. Some of the larger and well-marked natural regions of India will now be considered in more detail.

The North-west Frontier

This is a high plateau crossed by still higher mountain folds. The summer monsoons blow parallel to the ridges and bring little rain to the region, so that it is a semi-desert with very hot summers and rather severe winters due to its elevation. Agriculture can only be carried on by irrigation in the valleys of the rivers which are fed by the melting snows and glaciers of the high ranges. In these villages various cereals and fruits come to perfection if carefully cultivated. The hill-slopes provide pasture for sheep and goats and the more level plateaux for cattle and camels. The region is scantily inhabited by fierce and independent tribesmen, who are always a menace to the settled peoples living in the plains of the Indus. Two important passes should be noted, as through them have come most of the in-

Book III deals with *America*, affording examples for wider study of physical and climatic factors, and of human societies varying from the most simple to the most complex.

Book IV deals with *Eurasia*, where physical and political geography are more complicated than in any other of the continents.

Book V is a revision course of *World Geography* in which the earlier studies are co-ordinated and more detailed treatment is given to those parts of the work which have been dealt with in a rather more elementary manner in the earlier years.

The treatment is progressive, becoming more detailed and bringing in more difficult ideas as the pupils advance in age. In the earlier stages more attention is given to means of livelihood and industrial processes so that such expressions as "farmers," "nomads," "coal mining," "textile industries" may be something more than words when used in later stages of the work. So also such ideas as contour lines and actual temperatures which can be studied first-hand are introduced early, leaving more generalized ideas such as isotherms and formal "natural regions" till the pupils are better able to grasp their meaning.

In those Schools where only four years are devoted to the School Certificate Examination, Books II and III might be replaced by *Book IIA.—Britain Overseas.*

Those who are able to devote more than the usual but rather inadequate two lesson periods a week to geographical studies will find ample scope for further work in the questions and exercises attached to each chapter. This feature will also make the series well adapted to the needs of those working on individual lines.

Access to a good atlas and to pictorial illustrations of various kinds is assumed.

C. B. T.

In revising the present edition, bringing the series up to date, I am pleased to acknowledge the valuable help of my former colleague, Mr. S. Burton, B.A.

1935. C. B. T.

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EURASIA

CHAPTER I

INTRODUCTORY: PHYSICAL FEATURES

The name Eurasia has been given to the great land mass in the Northern Hemisphere which includes all the Old World except Africa, and which is more commonly regarded as consisting of two continents, Europe and Asia. Authorities differ as to what is the dividing line between these two, and as there is no well-marked physical or climatic separation between them, we may well treat them as one.

Eurasia is certainly the most important land mass in the world. It was the home of all the great civilizations of ancient times except Egypt and is the home of all the Great Powers of the modern world except the United States of America. It constitutes more than a third of all the land on the surface of the globe and supports three-quarters of the total population of the world.

Stretching almost from the Equator to the Pole and through 200 degrees of longitude, it contains within its borders physical features, climates, productions and peoples of almost every kind. We shall study it first as a whole, noting the effects upon it of the forces which are in the main entirely outside man's control. After that we shall study the more important divisions into which man has divided it, learning something of how he has adapted himself to his environment and of the efforts he has made to overcome the obstacles which it placed in his path.

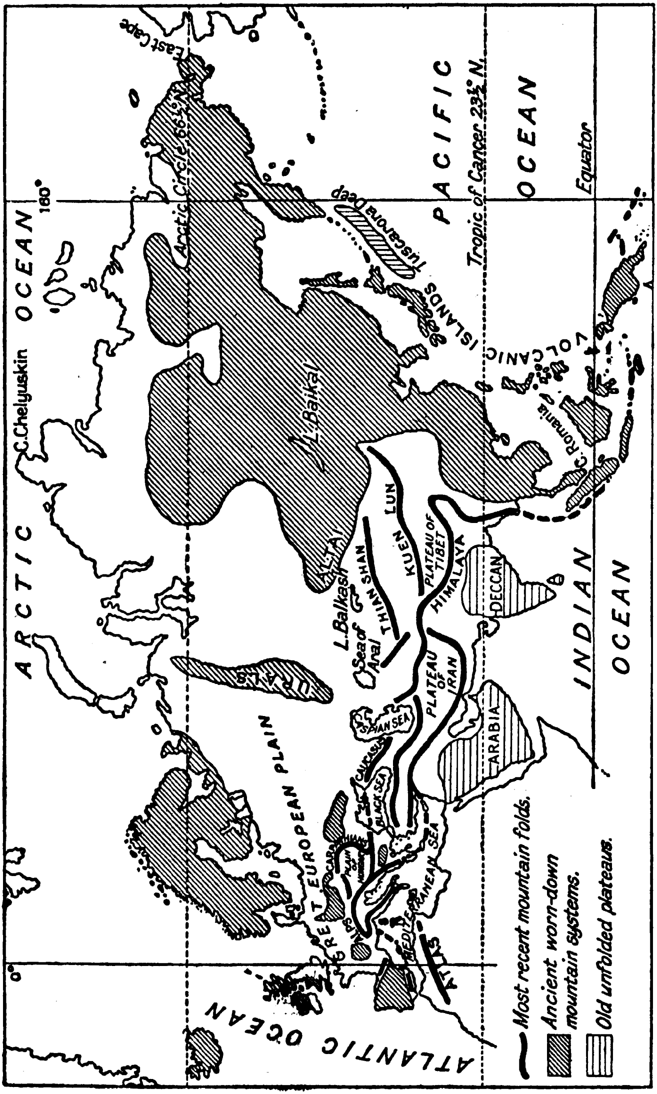


FIG. 1.—Structure of Eurasia.

PHYSICAL FEATURES

The most striking physical feature of Eurasia is perhaps the great series of *folded mountains* which extend across the continent from the Bay of Biscay to the Indian Ocean (Fig. 1). These are similar in structure to the Western Cordilleras of America and were doubtless formed in a similar way, perhaps at the same time in the earth's history. The main fold can be traced through the *Pyrenees*, *Alps*, *Carpathians* and *Balkans* in Europe, and then through the *Caucasus* and ranges of Persia to the great knot of the *Pamir*. Beyond this come the mighty *Himalaya*, containing Mt. Everest, the highest peak in the world, with its summit almost six miles above sea-level. The chain bends southward through the *Arakan Mountains* of Burma and is lost among the islands of the Malay Archipelago. Great branches from this main fold include the *Sierra Nevada* of Southern Spain, the *Atlas* of North Africa, and the Italian *Apennines*; while the ranges of Asia Minor, and those which radiate east and north-east from the High Pamir enclosing and crossing the great Plateau of Tibet, are also parts of the same folded mountain system.

The other highland regions of Eurasia are probably much older features of the earth's crust, existing as highlands while the rocks of the Alpine-Himalayan folds were being formed beneath the sea. Such *ancient mountain blocks*, which have undergone folding and ages of weathering by rain, rivers and ice, are found in Scandinavia and Britain, the plateaux of Spain, France and Southern Germany, the *Ural Mountains* and the highlands of Eastern Asia. We shall learn that these older highland regions are generally rich in mineral wealth which is lacking in the newer folded ranges.

The *plateaux* of Arabia and the Deccan of Southern India are just tilted plateau blocks similar to those of

Africa and Brazil, to which it is believed that they were once linked. Between these southern plateaux and the great folded ranges lie the depressed valleys of Mesopotamia and Northern India which have supported great ancient and modern civilizations, and also the sea-filled depression of the Mediterranean, upon whose shores flourished several of the great Empires of the past.

To the north of the Central Highlands a *great plain* slopes gently to the Atlantic and the Arctic Oceans. The shallow North and Baltic Seas are simply submerged portions of this plain to which the English lowlands were doubtless at one time attached. The plain is crossed by many long and useful rivers (e.g. Seine, Rhine, Volga, Yenisei), but the largest of them unfortunately flow to the Arctic Ocean which is closed by ice for the greater part of the year. On the western part of this plain, including Britain, have grown up some of the most powerful nations of modern times. The submerged western portion of the plain, which is sometimes spoken of as the "*Continental Shelf*," is very valuable. In the shallow waters that cover it live enormous shoals of fish that form an important food supply not only for Britain, as we have already learnt, but for the countries on the mainland of Western Europe. In this respect it can be compared with the famous Banks of Newfoundland.

The eastern coast of Eurasia is bordered by a long *chain of islands* stretching from the Peninsula of Kamchatka in the north through the Japanese and Philippine Islands to the Malay Archipelago. These islands are the remains of an old folded mountain chain, and a glance at a physical map will show that they rise from the deepest part of the Pacific Ocean. It is interesting to note that in the Tuscarora Deep to the east of Japan soundings of over five miles in depth have been taken. As in the case of Western America, folded mountains rising from deep seas have favoured the formation of volcanoes, and all these islands frequently suffer from eruptions and earthquake shocks. The Pacific Ocean is thus seen to be engirdled with a ring of active and extinct volcanoes. It might also be noted that where the mountain folds of the great central Eurasian system approach the sea volcanic activity has resulted, as in Southern Italy and the Andaman Islands to the south of Burma.

Northern Eurasia, like Canada, was at one period in its history covered by a great Ice Sheet which affected both in similar ways. Rock basins have been scooped out in the harder rocks, forming the lakes of Sweden, Finland and Russia; fertile soil has been laid down in other places, e.g. the boulder clay of East Anglia and the fine Black Earth of the Ukraine; picturesque lakes have been formed in Switzerland, Northern Italy and Britain by the damming of mountain valleys by glacial moraines; while moraines have also been left as lines of hills such as the Baltic Heights of Northern Germany.

Eurasia contains in the *Caspian Sea* the largest lake in the world. Its surface is 84 feet below sea-level, and, having no outlet to the open ocean by rivers, it is very salt. Indeed, it is believed to be actually a part of the ocean that has been isolated from the rest by earth movements which have uplifted the surrounding country. It is more than three times as large as Lake Superior and is three-quarters of a mile deep in its deepest part. It contains seals, salmon and sturgeon, all of which are ocean-dwelling creatures. Other large salt lakes of Eurasia are the *Aral Sea, Lake Balkash* and the *Dead Sea.* The Dead Sea lies in a deep Rift Valley which is probably the northward extension of the great African and Red Sea Rift, and its surface is 1,300 feet below the level of the Mediterranean. It has become so salt that no fish can live in it nor vegetation grow near its shores. *Lake Baikal* in Siberia, the largest fresh-water lake in Eurasia, is about as large as Lake Tanganyika, and like it lies in a Rift Valley.

We shall learn more of the great rivers of Eurasia in connection with the countries which they serve.

QUESTIONS AND EXERCISES

1. What day and hour will it be at East Cape when it is noon on Sunday at Greenwich ?
2. What are the latitudes of Cape Chelyuskin and Cape Romania respectively ? How many miles are they apart ?
3. Which countries of Eurasia ever see (*a*) the vertical midday sun, (*b*) the midnight sun ?
4. Compare the structure of America with that of Eurasia.
5. Compare the height of Mt. Everest (29,002 ft.) and the greatest depth of the Pacific Ocean (31,620 ft.) with the earth's diameter.
6. Why is Lake Baikal fresh while Lake Balkash is salt ?
7. Name and distinguish different types of high land, giving examples from Eurasia.

CHAPTER II

THE CLIMATE OF EURASIA

In such a vast area all types of climate, with every possible variation, from hot and humid to cold and dry, are to be found, as a study of the accompanying maps will show.

TEMPERATURE

Fig. 2 shows the mean isotherms for January, the coldest month of the year for most places north of the Equator. Notice the extreme cold experienced in the north-east of Siberia, where great distance from an open ocean, the shortness of time that the sun is above the horizon each day, and its low altitude in the sky even at midday, all tend to bring about low temperatures.

Notice, too, that more than half the continent at this time of the year has a mean temperature below the freezing-point, so that all rivers and lakes in this area are covered with ice and the ground is frozen to a depth of several feet. In contrast to this, notice that the southern peninsulas of Asia are enjoying in January mean temperatures higher than those of an English summer.

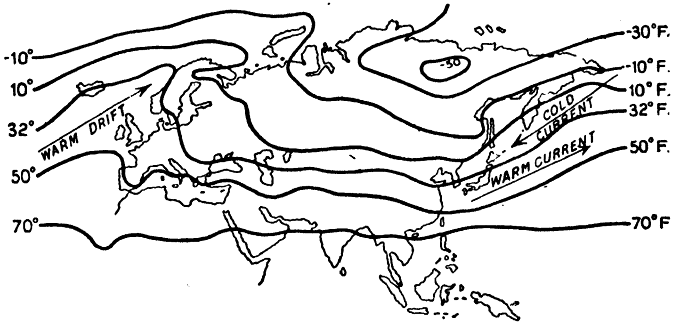


Fig. 2.—Mean January Isotherms.

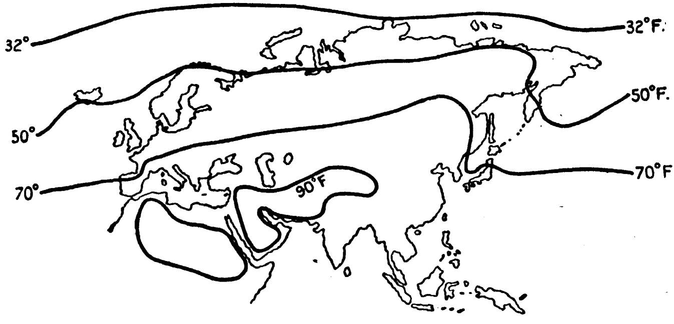


Fig. 3.—Mean July Isotherms.

The extraordinary northward bend of the January isotherms of Western Europe should also be noticed, indicating that this area is favoured with winter temperatures much higher than those experienced in the interior and on the eastern shores of the continent.

This is due to the prevailing south-westerly winds of these latitudes, which drift the warm surface water of the Atlantic towards the coasts of Europe, while Eastern Asia receives the winds after they have crossed the frozen continent. As in North America also, the eastern coast is washed by a cold current coming down from Arctic regions and rising to the surface to take the place of the warmer surface water which is driven off shore by the westerly winds. Thus while no seaport of Britain or Norway is ever closed by ice, the Siberian port of Vladivostok, which is in the same latitude as the South of France, is usually frozen up for at least a month each year. The southern coasts of Japan benefit from the warm Kuro Siwo or Japanese Current, which follows a course similar to that of the Florida Current and Gulf Stream in the North Atlantic.

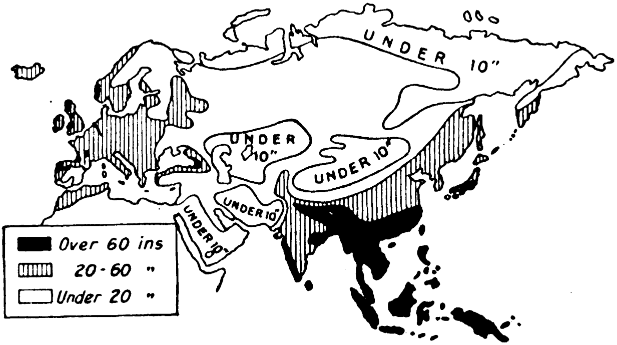
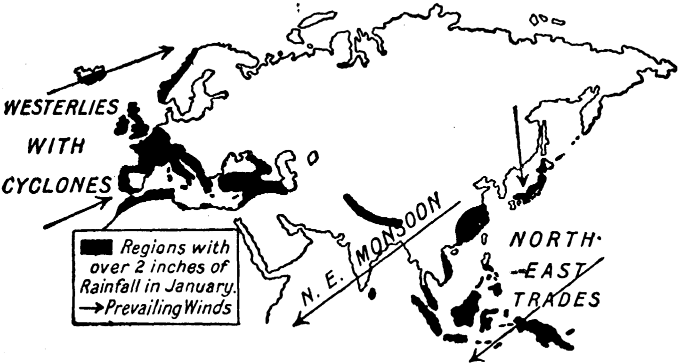


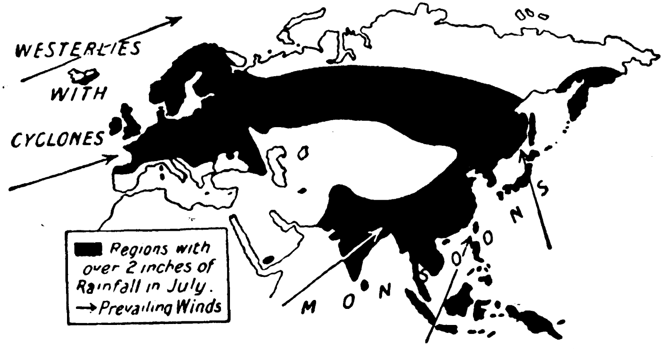
FIG. 4.—Mean Annual Rainfall of Eurasia.

Fig. 3 shows the mean July isotherms for the continent and brings out in a striking manner the effect of the movement of the vertical midday sun to the north of the Equator at this time. No part of the continent at sea-level has a mean temperature below the freezing-point in July, while in Arabia and north-west India very high temperatures indeed prevail. Notice also that at this time the coastal regions under the influence of the oceans, which heat up more slowly than the land, are cooler than the interior of the continent in similar latitudes.

A comparison of the two maps shows that range of temperature is least in the tropical coastlands and greatest in the interior, especially towards the north-east of the continent, while there is a much smaller seasonal range of temperature in Western Europe than in Eastern Asia.



(*a*) Winter Winds and Rainfall.



(*b*) Summer Winds and Rainfall.

FIG. 5.—Seasonal Distribution of Rainfall in Eurasia.

RAINFALL

Figs 4, *5a* and *5b* show the distribution of rainfall in quantity and season over the continent. It will be seen that the south-eastern and north-western areas of the continent receive a heavy rainfall, while over most of the continent the rainfall is only moderate or scanty. The much heavier rainfall of the south-eastern area (Fig. 4) is mainly due to the great amount of evaporation that takes place in the adjoining parts of the Indian and Pacific Oceans on account of the high temperatures which prevail there at all times.

The January and July maps (Figs. *5a* and *5b*), which can be taken as showing the typical winter and summer distribution respectively, show that there are two regions of Eurasia which receive rain at both seasons. The first of these is the north-west of Europe, including the British Isles. This area lies always in the great belt of Westerly Winds which we have already noticed as tempering winter cold and summer heat. As they come over some three thousand miles of ocean, they are also well laden with moisture which is deposited as they are cooled by rising over the highlands of Western Europe. The steady stream of the Westerly Winds is, however, often interrupted by *cyclones and anticyclones.* A *cyclone* is a region of low pressure in the atmosphere around which the wind circulates in an anti-clockwise direction, so that as the cyclone passes over a district the wind changes in direction. The origin of these cyclones or depressions is not yet well understood; but as air moves into them from regions of higher pressure, rising and cooling take place, leading to the formation of clouds, rain or snow, according to the temperature. These depressions come towards Western Europe from the Atlantic at frequent but irregular intervals, bringing wet, windy weather even to the lowlands at all times of the year.

Anticyclones occur less frequently. These are regions of high pressure from which winds flow outwards, circulating in a clockwise direction. The winds are generally lighter than in the case of cyclones as the pressure gradient is usually less steep, and an anticyclone is often accompanied by dry, cloudless weather which gives rise to "heat waves" in summer and "cold spells" in winter. The still, cold air of an anticyclone in winter often results in the formation of fogs, especially over smoky cities.

A study of the Daily Weather Maps issued by the Air Ministry in London and published in many newspapers will make clear the weather conditions and movements of these pressure systems. It may be noted in passing that the westerly winds of the Southern Hemisphere have similar cyclones and anticyclones, the only difference being that in their case the wind circulation takes place in the opposite direction from those in the Northern Hemisphere. Thus, when a cyclone is crossing New Zealand, the winds circulate around it in a clockwise direction.

The other area of Eurasia which receives considerable rain at all seasons is the Malay Region. This is due to the hot, moist air of this equatorial region being forced up by cooler air moving towards it from north and south in a similar way to what we have seen in the Congo Basin of Africa and the Amazon Basin of South America.

The extremely heavy summer rainfall and relatively scanty winter rain of South-eastern Asia calls for some special mention. This is accounted for by the *monsoons*, or well-marked seasonal winds of this region. In the hot summers winds blow towards the land from the relatively cooler southern seas, which are, however, sufficiently hot to provide the winds with abundant moisture. In the winter, however, when the land is much cooler than the seas to the south, winds flow

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Where the hot, wet south-west monsoon of the Indian summer meets the high mountain wall of the Himalaya and Burma occurs the heaviest rainfall in the whole world. Chirrapunji in Assam has a mean annual rainfall of 40 feet and as much as 40 inches have been recorded there in a single day! More will be learnt of the monsoons in connection with India (p. 63).

It will be noticed that most of the Mediterranean shorelands have greater rainfall in winter than in summer. In the winter months the belt of westerly winds and cyclones moves southward from its normal position and spreads its rainbearing influence into the Mediterranean Region, while in summer the region is mainly in the hot, dry Belt of High Pressure Calms between the Westerlies and the Trade Winds.

The interior parts of Eurasia receive most of their scanty rainfall in the warmer months when, owing to the lighter air-pressure, rain-bearing winds from the oceans penetrate further inland. Along the Arctic shores, where temperature is never sufficiently high for much evaporation to take place, there is naturally little precipitation. What there is is mainly in the form of snow, and it may be remembered that 10 inches of snowfall is only equivalent to 1 inch of rainfall.

CLIMATIC REGIONS OF EURASIA

From the above considerations we can subdivide the continent into a number of fairly well-marked climatic regions. It should be remembered that within each of these considerable differences may be found due to elevation, etc.

1. *The Arctic Coastlands* have long, dark and intensely cold winters, and mild summers with scanty rainfall.

2. *The Interior Lowlands* have cold winters, hot summers and scanty rainfall, mostly in the warmer months.

3. *Western Europe* has warm summers, mild winters, and considerable rainfall at all seasons. Fogs are fairly common in coastal districts.

4. *The Mediterranean Region* has hot, droughty summers and warm, moist winters.

5. *The Arabian, Iran and Indian Deserts* have intensely hot summers and warm winters, with little rain at any time.

6. *The Central Plateaux* have intensely cold winters and cool summers, owing to their great elevation, and little rain or snow owing to their distance from the sea.

7. *The North-east Coastal Region* has cold, dry winters and hot, moist summers.

8. *The Monsoon Region* has hot, wet summers and warm, dry winters.

9. *The Malay Region* is always hot and has rain at all seasons, with most when the sun is overhead at midday. Thunderstorms are frequent.

QUESTIONS AND EXERCISES

1. Can you find from Fig. 2 a meaning for the expressions (*a*) "the pole of maximum cold in north-eastern Siberia," (*b*) "the winter gulf of warmth in the North Atlantic"?

2. What parts of Eurasia have the same mean temperature in July as Britain has in January?

3. What is the difference between an ocean "current" and a "drift"?

4. Compare the effect of drifts and currents on the climate of North America and Eurasia respectively.

5. Which parts of Eurasia have the greatest and the least range of temperature respectively? Why?

6. Study carefully the weather maps in a daily paper, or better still, the Daily Weather Reports issued by the Meteorological Office, each day for several weeks and notice the movement of cyclones and anticyclones and the accompanying weather in your own and other districts.

7. Compare the distribution of rainfall in North America and Eurasia, explaining any striking differences observed.

8. Draw a sketch map of Eurasia to illustrate the various climatic regions indicated on page 21.

9. Represent the following statistics graphically on the same scale. Six figures are given for each place in the following order: Mean January Temperature (° F.), Mean July Temperature (° E.), Mean Rainfall in inches for Spring (March, April, May), Summer, Autumn and Winter.

Smyrna :	47,	80,	6,	1,	7,	12.
Bombay :	74,	82,	0,	50,	32,	0.
Madras :	76,	82,	1,	8,	20,	19.
Irkutsk :	—7,	66,	2,	8,	3,	2.
Singapore :	80,	83,	21,	22,	25,	21.
Peiping :	23,	79,	2,	18,	4,	0.
Paris :	36,	66,	5,	6,	6,	5.
Moscow :	13,	66,	5,	8,	5,	4.

Compare your diagrams and explain the more striking differences observed.

CHAPTER III

NATURAL VEGETATION AND WILD ANIMALS OF EURASIA

As in the other continents we have studied, there is a well-marked relationship between the climatic and vegetation belts. In the thickly peopled areas of Western Europe, India and China there has been considerable modification of the natural vegetation, but over the large and thinly-peopled northern and central portions vast areas remain as they have been for thousands of years (Fig. 6).

The Tundra along the Arctic shores has only vegetation which can withstand the long, hard winter, such as mosses and lichens. Towards the south small bushes appear, and many of them have berries which ripen in the long sunny days of summer and provide an item of food for the wandering tribes. The most valuable animal of the region is the reindeer, which manages to exist on the reindeer-moss, and provides the people with flesh, milk, tent-making material, clothing and means of transport. In the summer the rivers, and the marshes which cover vast areas around their lower courses, abound in fish, waterfowl and mosquitoes.

The Temperate Forests stretch across the continent in a broad belt 600 miles in width. Where conditions of soil and climate are bad, as in most of Siberia and Scandinavia, the trees are mainly coniferous, such as pines, firs and larches; but where milder conditions prevail there are more broad-leaved trees which shed their leaves in autumn, such as the oak, elm and beech. In the British Isles and lowland parts of Central Europe great clearances have been made in this forest belt to provide fuel and building material and to make room for pastures and cultivation; but on the higher lands considerable forests still remain, e.g. the Black Forest of Germany. In the forests of Russia and Siberia many fur-bearing animals, such as bears, squirrels, foxes and ermine, are hunted in winter for their skins, while packs of wolves and the wild boar are still found in the remoter parts of the forest.

Treeless Grasslands, known as the Steppes, lie to the south of the forests, where scanty rainfall and extremes of temperature due to distance from the sea prevent tree growth. But grass, which completes its cycle of growth from seed to seed in a few weeks, flourishes, as do also many bulbous plants which make the steppe bright with flowers in the early summer. Herds of cattle, sheep and goats supply almost all the needs of the wandering tribes of the steppe, many of whom are also clever horse-riders, as the horse is a native of this region. The better-watered parts of the steppe, especially in the Ukraine and Siberia, are cultivated and produce large crops of wheat and other cereals. Long periods of drought in past ages often resulted in the hardy steppe-dwellers overflowing into the coastal plains and river valleys to the south, raiding and conquering the settled agricultural populations who lived there.

Deserts cover large parts of Asia, but no part of Europe, except the tops of the highest mountains, is without vegetation of some kind. The Arabian Desert is really a continuation of the African Sahara, and desert or semi-desert conditions prevail over most of the central highlands of Eurasia. These regions, owing to higher latitude and altitude, experience severe winters such as are unknown in the Sahara. The rain and snow which fall on the higher ranges provide water for many rivers which irrigate considerable valleys in these regions. The summer heat enables corn and fruit to ripen in these valleys and support a moderate population as in Iran, Afghanistan and Turkestan, while the hill

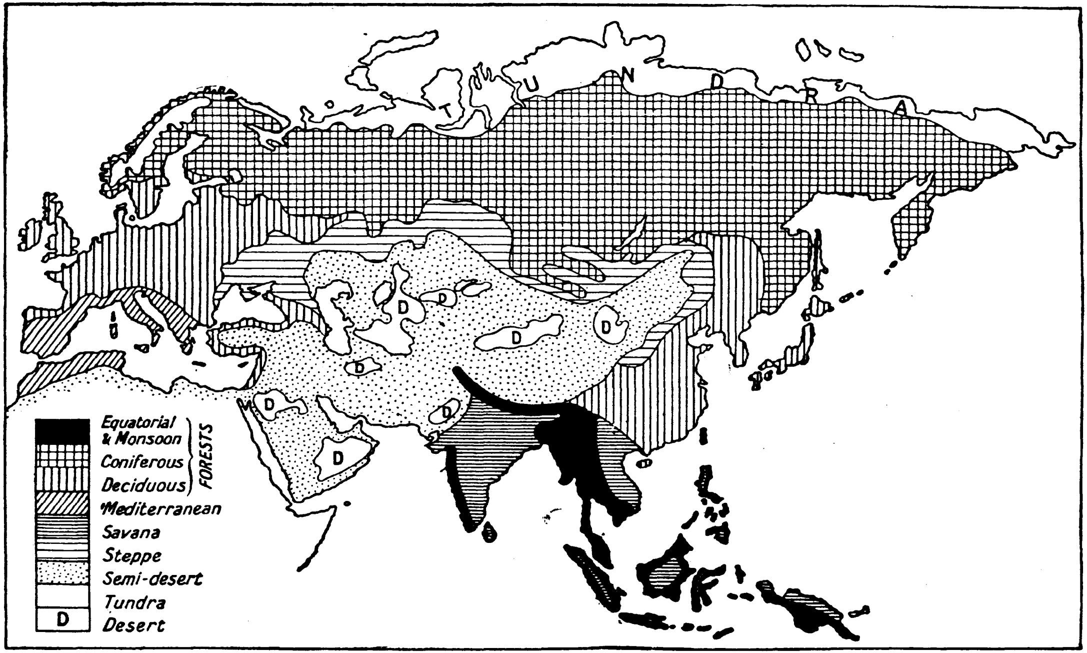


FIG. 6.—Natural Vegetation of Eurasia.

slopes provide pasture for the sheep and goats of nomadic herdsmen. In Arabia, as in the Sahara, the one-humped dromedary is the common beast of burden, while the better-watered parts have sufficient pasture for horses. In the desert of Gobi is found the two-humped Bactrian camel, which is used by the Mongols for the caravan traffic between China, Turkestan and Siberia. The yak, a sort of shaggy ox, is the characteristic animal of the high Tibetan plateau. It is used as a beast of burden and also supplies the Tibetans with flesh, milk, and material for making clothes, boots and tents.

The Mediterranean Type of Vegetation is evergreen, as there is no winter frost; but it has to develop special characteristics to withstand the summer drought. These include small tough leaves, as of the olive and orange, long roots, as of the grape vine and fig-tree, or thick bark, as of the cork oak. All kinds of cereals also flourish, and grain and fruit come to perfection with the hot summer days. These regions have consequently always favoured human life and have been the home of many of the great civilizations of the past, e.g. Cretans, Egyptians, Phœnicians, Greeks, Romans. No wild animals of any size remain in this region, but sheep and goats are kept in the higher parts, the Merino sheep of Spain and Angora goats of Asia Minor being famous for their wool and mohair.

The Monsoon Forests of South-east Asia cover the lower slopes of the mountains, where the rainfall is heavier and the winter dry season is not so marked. The heat and moisture tend to make the forest resemble the tangled jungles of equatorial regions. Teak and bamboo are the most valuable trees of the monsoon forests, while the leaves of the mulberry and other trees are used, especially in China and Japan, to feed silkworms. The tea plant thrives on the hillsides where forests have been cleared, especially in India and China.

The larger wild animals of these forests include the elephant, which can be trained as a beast of burden, and the man-eating tiger of Bengal.

Savana lands occur in the monsoon areas where the dry season is long enough to prevent good tree growth. The trees are then confined to the neighbourhood of watercourses or to regions where the soil retains moisture during the dry season. Outside these areas the natural vegetation is grassland. The Deccan of India and the eastern part of Indo-China is mainly of this type. The wild animals are mainly confined to the forested portions of the savanas.

The parts of the regions which are clear of forests produce many cultivated plants, e.g. rice, millet, sugar, cotton and spices; and the lowlands and river valleys of India and China are among the most densely-peopled regions in the world.

The Equatorial Forests of the Malay Peninsula and adjoining islands are like the tangled jungles of the Amazon and Congo Basins. Hardwood trees, climbing plants, and palms which provide coconuts, bananas and sago are common. In clearings rubber, sugar and spices are grown in the lowlands, and coffee and tea on the hill-slopes. Monkeys, reptiles and noxious insects of all kinds abound.

QUESTIONS AND EXERCISES

1. Compare the belts of natural vegetation as shown in Fig. 6 with those of America.

2. Compare Fig. 6 with Fig. 4 and explain the more obvious similarities and differences.

3. In which of the regions of natural vegetation would it be most easy and most difficult respectively for human beings to get a living? Why? How does your conclusion agree with the map on page 34 showing density of population in Eurasia?

4. Try to secure pictures of the various plants and animals mentioned in this chapter, or, better still, to see live specimens of as many as possible in Kew Gardens, the Zoological Gardens or elsewhere.

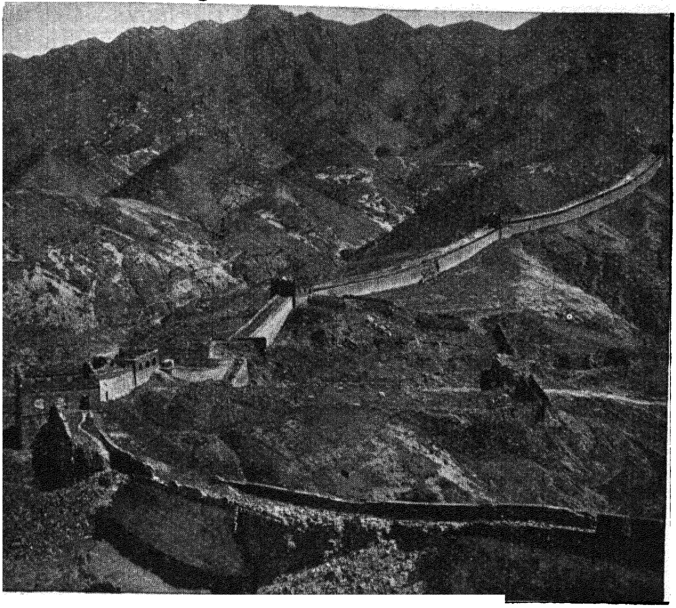
CHAPTER IV

THE PEOPLES OF EURASIA

So far our studies have concerned continents in which, with the exception of Egypt, lived peoples of whom there were no written records until their visitation by Europeans in the sixteenth century and after. But Eurasia seems to have been the cradle of the human race. Excavations in recent years have unearthed records of people who were living a settled and civilized life in the valleys of the Euphrates and Tigris over five thousand years ago. The records of the Hindus and the Chinese also show that there were civilizations in the river valleys of India and China many centuries before the Christian era.

In all these cases we find that people were inhabiting lands where plentiful sunshine and sufficient water supply enabled food crops to grow for man and beast, and the abundance of food left man time to build settled dwellings, to practise various arts and crafts and to organize more or less powerful states under settled forms of government. He had even time to think of a future life, as is shown by the facts that some of the sacred writings of the Hindu religion go back to more than a thousand years before Christ, while Confucius, the great moral teacher of the Chinese, was born in 551 B.C.

These river-valley communities, surrounded by high mountains and deserts, enjoyed a certain amount of security from outside attack, but from time to time all of them suffered from raids carried out by the people of the central plains and plateaux. These raiders were relatively small tribes of wandering herdsmen inhabiting the poorer pastures of the mountains and plateaux or of the steppes. Their life made them frugal and strong, and, having trained the wild horses of the steppes, they possessed the power of very rapid movement. From time to time the chief of one of the tribes would be a man of strong and adventurous personality and he would unite many of the tribes for the purpose of a raid on the coastal plains and river valleys. Long periods of drought, which the interior often suffers, would also cause the nomads to seek "fresh fields and pastures new." Thus throughout the ages wave after wave of people spread outwards from the centre of the continent. The Great Wall of China is a striking reminder of this fact. It was 1,500 miles long and, like Hadrian's Wall in England, also built to keep out warlike tribes, had watch-towers at intervals along it.



[*Photo: E.N.A.*

PART OF THE GREAT WALL OF CHINA.

Showing the rugged and barren nature of the country on the Mongolian border.

Many miles of the Great Wall still remain, although it was two hundred years old when the Romans came to Britain!

The invaders usually settled down in the conquered lands and their descendants in turn became peaceful agriculturists, only to suffer further inroads from the nomads at a later date. Thus came the famous Greeks into the Mediterranean coast lands eleven centuries before Christ and the later Roman Empire fell before the barbarian Vandals in the fifth century after Christ. In the ninth century of our era the Magyars, a race of nomadic herdsmen from the Asiatic steppes, advanced by the Danube Valley to the plain of Hungary where their descendants still rule, and in the sixteenth century the Turks penetrated into the Danube Valley and the Balkan Peninsula. At about the same time the Moguls descended upon the plains of Northern India through the north-western passes and established the great Empire which lasted till the coming of the British, while in the seventeenth century the Tatars from Manchuria overran the river valleys of Northern China.

We have learnt, in our study of Africa, of the rapid spread of the Arabs along the southern shores of the Mediterranean and even into Spain at the time that the Normans were conquering England. Our own country had of course experienced several "waves" of invasion previous to this, those of the Celts, Romans and Anglo-Saxons having left permanent marks upon the country and its people.

RACES, LANGUAGES AND RELIGIONS

From the brief foregoing outline it will be understood that there has been much mixing of the peoples of Eurasia in the course of history. But in spite of this it is possible to make a rough classification of most of the people of the continent into two races—White and Yellow. *The White Race*, sometimes spoken of as

"Caucasian," are found mainly south and west of a line drawn from the White Sea to the delta of the Ganges (Fig. 7). These people are characterized by straight and narrow nose, thin lips and a considerable quantity of wavy hair; but the complexion, eyes and hair vary from very fair in the most northerly representatives, e.g. Norwegians and Danes, to very dark in those of Southern Europe, Arabia and India. This White Race is, of course, divided into many nations speaking many languages, as is easily found out by an Englishman visiting any of the countries that lie only across the North Sea and English Channel. Those who have studied the matter, however, are sure that most of the languages spoken in Europe as well as those of Persia and India were derived from the same original *Aryan* language, and it is believed that the Sanskrit language, in which the sacred books of the Hindus were written over three thousand years ago, resembles this original language very closely. The people of Southern India, although belonging to the "White Race," speak non-Aryan languages called *Dravidian*. The Arabs and

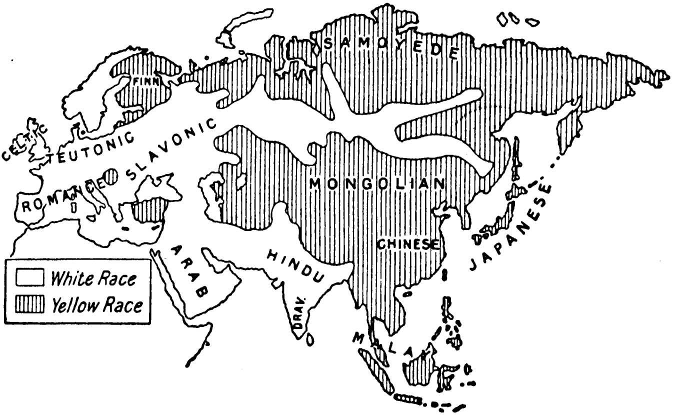


FIG. 7.—Chief Races and Language Groups of Eurasia.

Hebrews, who are also considered as part of the White Race, speak what are known as *Semitic* languages which are totally unrelated to the Aryan Group, but are similar to those of the Assyrians and Babylonians who inhabited the fertile valley of Mesopotamia in the remote past.

The White Race has given to the world most of its great religions (Fig. 8). *Hinduism*, which appears to have originated in India about 1500 B.C., still claims over 200 million adherents in that country. *Buddhism*, founded by Buddha, a Hindu, about 500 B.C., has now over 300 million adherents, most of whom are in China. *Judaism*, which originated in Palestine in Old Testament times, is still the religion of Jews all the world over; while *Christianity*, which grew out of it, has spread all over Europe and to the countries where the white man has gone, so that it now numbers over 400 million adherents. *Mohammedanism*, founded in Arabia by the prophet Mohammed in the seventh century after Christ, spread rapidly through Northern Africa, South-west and Southern Asia, and still claims almost 200 million followers.

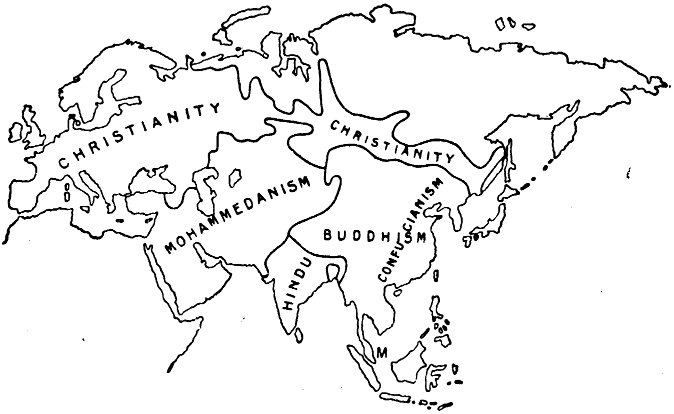


FIG. 8.—Chief Religions of Eurasia.

The Yellow Race, sometimes called "Mongolian," is found mainly in the central and eastern parts of the continent. They are distinguished by their yellowish complexion, broad flat face, prominent cheek-bones, small nose, narrow, sunken and oblique-set eyes, and coarse, straight, scanty black hair. There are among this race as many differences as in the White Race both in appearance and languages, but the differences between any representatives of the Yellow Race are not so great as between any one of them and a representative of the White Race.

Although yellow men have been leading settled civilized lives in the valleys of China quite as long as the white men elsewhere, they have not made the great strides that the white man has made in modern times, so that although they are almost as numerous as the White Race they have remained in their original homelands, leaving the New World to be developed by the white peoples. But the awakening and rapid progress of the Japanese in the last half-century have shown that the yellow man is not essentially inferior to the white man, and the possibility of a similar awakening in China, which holds about a quarter of the world's people, may lead to some difficult problems in the future.

A few of the peoples of Europe are the descendants of Mongol invaders of the past. Such are the Lapps, Finns and Ests in the north, Magyars in the centre, and Bulgars and Turks in the south; but most of them have become much modified by mixture with the White Race.

In the Malay Peninsula and islands live a brownish people who are sometimes regarded as a separate race of people, but they are probably only a subdivision of the Yellow Race. The people of the Andaman Islands in the Bay of Bengal, however, show resemblances to the small negro tribes of Central Africa and are called Negritoes. The Ainus of Northern Japan are curious in not apparently belonging to the Yellow Race, but resembling more nearly the White Race, especially in the matter of their long wavy hair. Unlike the Mongols, too, the Ainu men are well bearded.

In the following chapters we shall study some of the more important countries into which these people have subdivided Eurasia, and learn something of how they are developing their varied resources.

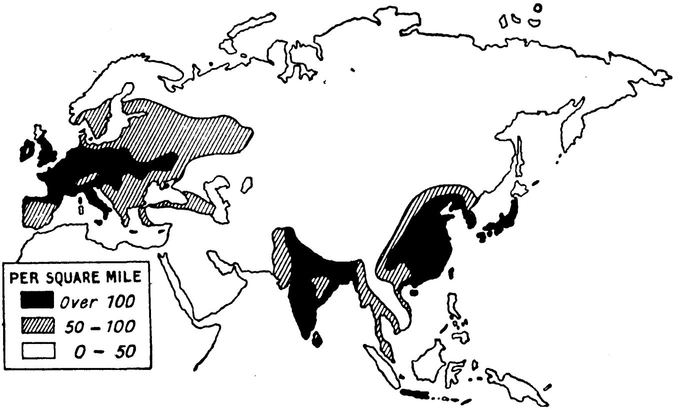


FIG. 9.—Density of Population in Eurasia.

QUESTIONS AND EXERCISES

1. How does a Hindu differ in appearance from a negro and an American Indian respectively ?

2. What is meant by the expression " The Yellow Peril " ? To what extent does such a " peril " exist and how might it be avoided ?

3. " East is East and West is West, and never the twain shall meet." What does this mean ? Is it true ? Does the League of Nations provide an answer ?

4. Describe and account for the distribution of population in Eurasia as shown in Fig. 9.

CHAPTER V

CHINA

Of every four men in the world one is a Chinese! These four hundred million Chinese live in a country larger than Europe, but more than three-quarters of them live in the coastal plain and the valleys of the three great rivers that cross it. Shut off from the rest of the civilized world by high mountains, a great desert and a vast ocean, and influenced by a religion which teaches that desire for improved conditions is evil, these millions of people have remained for centuries in much the same conditions of life. The poverty of the majority of the people is hardly equalled by that of the dwellers in the worst slums of a modern European industrial city! Only in the last century have white traders and Japanese merchants, who have copied European ways, been able to enter the country and to show the Chinese the possibilities of developing her vast mineral resources as well as those of her fields. It will probably be many years before the railway has superseded the wheelbarrow as the chief means of land transport in China!

In such a vast country with such poorly-developed means of communication a central government has been very difficult to maintain, and although various conquerors from Central Asia have at times ruled most of the country, local chieftains have usually had a great deal of power. In 1912 the last of the Manchu Emperors who ruled from Peking was deposed, and a " Republic " was established under a President who had been educated in America and Europe. This has not proved any more stable than the old kingdom for exactly the same reason, and civil war is common. Although this, of course, interferes with the development of foreign trade, the great masses of China are unaffected by these upheavals and continue cultivating their land as their ancestors always have done.

But things are stirring in China, and the recent introduction of a simpler form of writing which will enable the majority of the people, instead of a very small minority, to read and write, will probably soon have a great effect. The Chinese are certainly not lacking in industry or intelligence, and with the wider spread of the knowledge of the resources and possibilities of their country they will probably bring about vast changes in the course of the next few decades.

Northern China

This is practically the basin of the Hwang-ho, or Yellow River. Rising in the high plateau of Tibet, and after cutting deep gorges in the desert plateau of Mongolia, it enters a wider valley. This is covered by an enormously thick layer of porous yellow soil called *loess*, which is believed to have been blown from the desert in the course of ages by the winter monsoons. The loess gives a yellow colour to the river, the roads, the houses, and the whole landscape; but it is extremely fertile and enables the Chinese to grow fine crops of wheat, barley and fruits similar to those of our own country. The river and its tributaries cut deep valleys in the loess, while the wear and tear of ages have made the roads like deep and narrow gorges, in the steep sides of which the people excavate their homes. This of course helps to increase the space available for cultivation, a very important economy in such a thickly-peopled country. It was to protect these fertile lands from marauders that the Great Wall was built. The plateaux that border the middle Hwang-ho valley are rich in coal, iron and other minerals which need easier means of transport for their development. The highlands also pasture sheep and goats which provide the materials for winter clothing for the people, the winters being bitterly cold.

After leaving the highlands the Hwang-ho enters a wide and fertile alluvial plain which is fully cultivated, although the river itself is here a great source of danger. The vast quantities of silt it brings from the highlands and the loess region are deposited as it slows up in crossing the plain, thus raising its bed. To prevent flooding the Chinese have continually raised the embankments alongside the river, but all their industry has failed at times to stem the torrents; and often in the course of history the river has burst its banks and drowned more than a million people. The most disastrous of these floods occurred in 1852, when the river moved its lower course a distance of 300 miles from the southern side of the Shantung Peninsula to its present outlet in the Gulf of Pechili (Fig. 10), flooding all the intervening country! The great cultivation of cereals on the northern plain provides not only foodstuffs, but also the raw material of a straw-plait industry for which China is famous. Mats for houses,

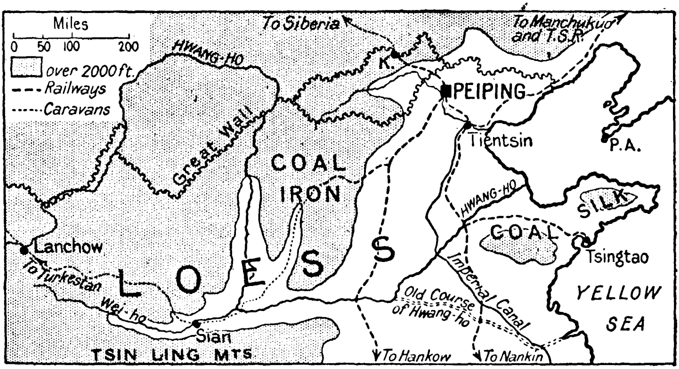


FIG. 10.—The Fertile Loess Region of Northern China, and some ancient and modern factors in the growth of Peiping.

sails for the junks that ply on the river, material for hats and baskets are the products of this industry which is largely carried on by hand labour. The leaves of oak trees grown in the Shantung Peninsula are used to feed the silk-worms that produce the famous Shantung silk. This hilly peninsula has also valuable supplies of coal, iron, copper and gold which are being developed.

Peiping, formerly called Peking, though not the largest city of China, was for several centuries the capital of the country, and has a population of over a million. Its name means " the northern capital," and it was the ruling centre of peoples who entered China from the north-east, such as the Manchu Tatars. Their square, walled city was built adjoining the similar and older Chinese city and both are surrounded by a further wall and ditch. Old roads and modern railways radiate from it (1) to *Tientsin*, its seaport nearer the mouth of the Pei-ho, and thence to Manchukuo and the Trans-Siberian Railway; (2) to *Kalgan* on the Great Wall, from which start caravan routes into Siberia and Mongolia carrying tea and silk in exchange for furs and hides; (3) to the Shan-si coalfield; (4) to Central and Southern China. An important caravan route goes by way of the Hwang-ho and its tributary the Wei-ho to the great provincial capitals of *Sian* and *Lanchow*. From this point routes diverge to *Lhasa*, the capital of Tibet, and *Kashgar* in Chinese Turkestan. The latter is the old jade route along which has passed to China for centuries the much-prized green stone in which the Chinese are skilled workers; and it is also the route by which the famous Venetian traveller, Marco Polo, entered China in the thirteenth century. Peiping is also connected to Southern China by the Imperial Canal, constructed in the seventh century to bring the annual tribute of rice to the northern capital by a route which would escape the dreaded typhoons of the China Seas. *Tsingtao*, on a fine harbour, was greatly developed while it was in the occupation of the Germans, who constructed railways from it to the Shantung coalfields, the Hwang-ho and the Yang-tse-kiang. It has become an important seaport and manufacturing centre, but *Tientsin* is the largest city and seaport of Northern China.

CENTRAL CHINA

This consists mainly of the basin of the Yang-tse-kiang, the richest and most thickly-peopled region of all China. This river also draws its waters from Tibetan glaciers, and only becomes useful when it enters the rich *Red Basin of Sechwan*, whose red soil is as fertile as the yellow loess. This soil is less porous and enables irrigation to be carried out, and as the region receives much higher summer temperatures than northern China it produces rice and sugar in the lowlands and tea on the hill-slopes as well as all the other crops of the Hwang-ho basin. Every available patch of ground is laboriously cultivated by hand and the hill-sides are terraced to provide more room for crops. Mulberry trees are also grown to provide food for silkworms, and cotton is also cultivated. Underlying the red sandstone of Sechwan are valuable coal deposits not yet largely worked, but the province manufactures silk on a large scale. *Chungking*, at the confluence of the Kialing with the Yang-tse, is the chief port of the Red Basin, the navigation of the rapids in the Ichang Gorge being accomplished by large gangs of men hauling the junks up-stream or by steam vessels.

Below *Ichang* the Yang-tse becomes a broad navigable river saved from disastrous floods by several large lakes along its course. These lakes receive the surplus water from the river during the summer monsoon rains and help to maintain the flow during the dry winter. The river is not only the great highway of the region, but also supplies water to irrigate the rice fields on either side which supply the staple food of the people. The rice grows best with its roots under water till the ripening season, when the fields are drained to facilitate the harvest. The river also has abundance of fish, which is the second important item of the people's food. Many Chinese live in junks moored to the banks, and farmers and fishermen live by a mutual exchange of products.

Around the confluence of the Han tributary has grown up the great city of *Hankow-Wuchang-Hanyang* (Fig. 11). On the south side of the river are rich coal

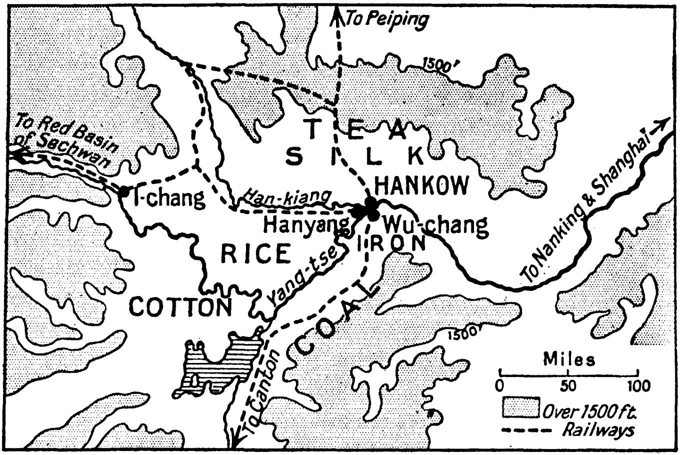


FIG. 11.—The most central and most rapidly developing region of China.

and iron deposits, and great modern steelworks to utilize these have been established at Hanyang. The city is also the limit of navigation in the Yang-tse for ocean-going vessels and is on the great railway route from Peiping to Canton. All these factors, together with its central situation in the country, point to a great future for Hankow, which has already, with its adjoining towns, a population well over a million.

The Yang-tse, now more than a mile wide, proceeds through further well-cultivated and densely-peopled alluvial plains to *Nanking*, a former Chinese capital, which has again been restored to that position, superseding the old Peking. It is now an important port for tea and silk and has railway connections with Tientsin and *Shanghai.* The latter is the chief port of the Yang-tse Basin and of China, but owing to the silting up of the river it is situated some miles up a tributary. Even then considerable dredging is necessary to keep the approaches clear. It has cotton and silk factories to work up the raw material of the interior, and also exports tea. But it has to import rice from Indo-China to add to the local supply, which is insufficient to feed the dense population of the region. Large liners call at Shanghai from Britain, the United States and Japan, bringing manufactured goods of all kinds, especially cotton cloth, and Shanghai is the great international market of China.

SOUTHERN CHINA

This is a region of forested mountain ranges broken by fertile and thickly-peopled river-valleys, the most important of which is that of the Si-kiang. In this region the summers are hotter and wetter and the winters are not so cold as in the rest of the country, although the outflowing winter winds have occasionally surprised the inhabitants with snow showers. The valleys and coast plains, carefully dug and watered by the industrious people, produce large crops of rice, sugar cane, cotton oil seeds and spices such as ginger; the hill-slopes produce tea and mulberries and the mountains fine timber trees. Two trees of Southern China also produce the gums from which camphor and lacquer are made. The mountains, especially in the western province of Yunnan, are rich in minerals of all kinds, tin being largely worked.

Canton (Fig. 12), a city of over a million people, is the largest town of the region, commanding as it does the entrance to the Si-kiang valley, which is the main highway of communication. It is on the main distributary of the river at a point where it is joined by a tributary from the north, so that it has water communication in three directions. A railway connects it with the seaport of Kowloon, opposite Hong Kong, and another runs northward to link it with Hankow and the whole of Central and Northern China. It has manufactures of cotton and silk goods, also of porcelain and lacquer goods, for which China has long been famous. Its tea trade has declined owing to careless methods of preparation and packing which have caused it to be superseded by India and Ceylon. There is a clean and pleasant European quarter at Canton, but the typical native walled city is repulsive with its narrow, crowded and filthy streets bordered by garish open shops in which evil-looking and evil-smelling foodstuffs are exposed for sale. Overcrowding and the necessity

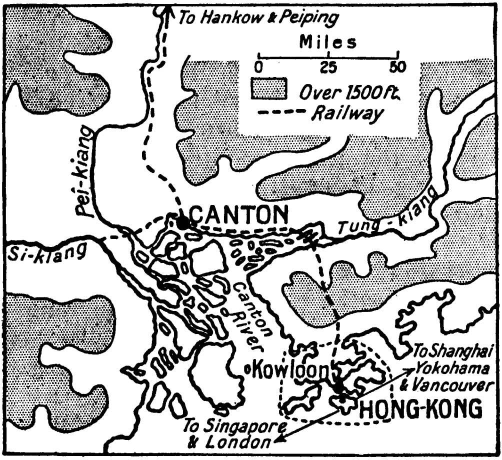
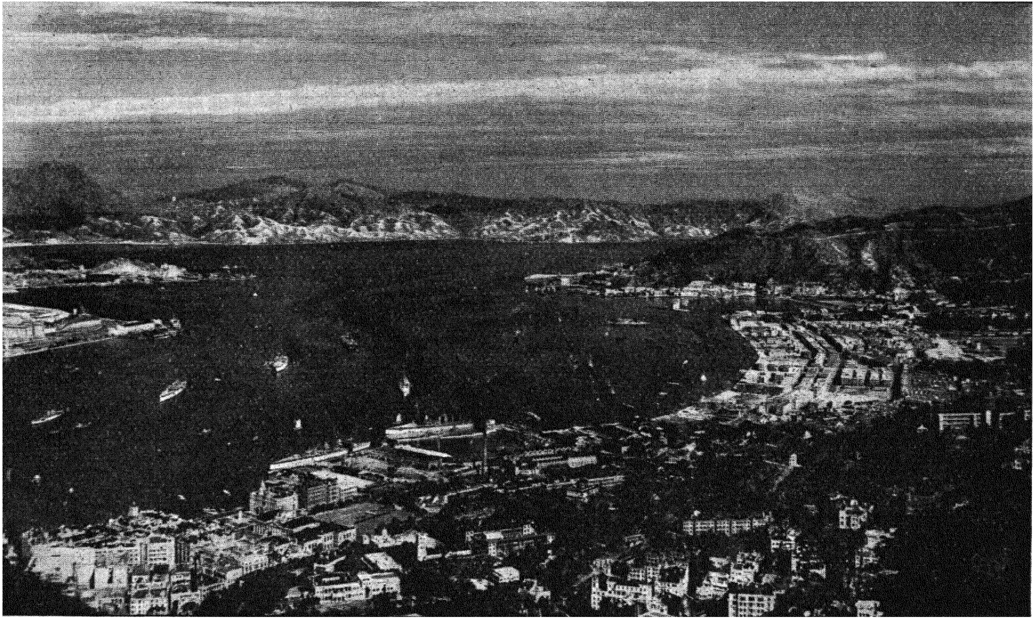


FIG. 12.—Canton and Hong Kong.—The Chinese and British gateways to Southern China. Note the delta of the Si-kiang (= West River), and the important valleys of the Pei-kiang (= North River), and Tung-kiang (= East River).



[*Photo*: *E.N.A.*

THE HARBOUR OF HONG KONG.

Note the mountainous character of the mainland, and the docks of Kowloon.

of economizing all land for cultivation have driven thousands of the people to live in junks moored to the river banks ; so that about a quarter of Canton's teeming population lives afloat with its pigs and poultry, going ashore to work in factories or buying its rice with the produce of its fishing industry.

Hong Kong, with the territory of Kowloon on the mainland opposite, is an important British possession, and through it passes more than a quarter of the total foreign trade of China. Its merchants purchase tea, silk and other Chinese produce for export and buy textiles, machinery and other manufactured articles to sell again in China. It is a free port and ships of all nations can be seen at the wharves of Kowloon and in the harbour of Victoria on the island. A greater tonnage of shipping enters and leaves the port each year than in the case of London. It has an important naval dockyard and is a fortified coaling, cable and wireless station.

OUTLYING PROVINCES OF CHINA

Mongolia is a vast province covering the Gobi Desert and its semi-desert borders. It suffers from great extremes of climate, the winters, owing to elevation, exposure and distance from the sea, being exceptionally severe. The Mongols are nomadic herdsmen, wandering from pasture to pasture with their flocks of sheep, cattle, horses and camels, and sleeping in their tents made of hides. They exchange wool, hair, rugs and carpets for cotton, tea, sugar and other luxuries from China. *Urga* is the only centre of considerable size, and from it radiate caravan routes traversed by the two-humped Bactrian camels to Siberia, China and Sin Kiang.

Sin Kiang, which includes the old province of Turkestan and the surrounding districts, consists of a deep depression set among some of the highest mountain ranges in the world. The climate is extreme and rainfall scanty, but the melting glaciers in summer supply enough water to the Tarim River for irrigation purposes, and the temperature is high enough to bring cereals and fruits to perfection. Along the river are therefore settled villages and towns, but there are many wandering herdsmen who ascend to the higher pastures with their flocks in the summer and descend to the valley pastures in winter. The bazaars of *Kashgar* and *Yarkand* are famous for their fine carpets and silk goods, which are exchanged for tea brought from China on the backs of camels. For camel transport the tea is compressed into "bricks" about two feet square and an inch thick, which can be easily packed into convenient-sized bundles.

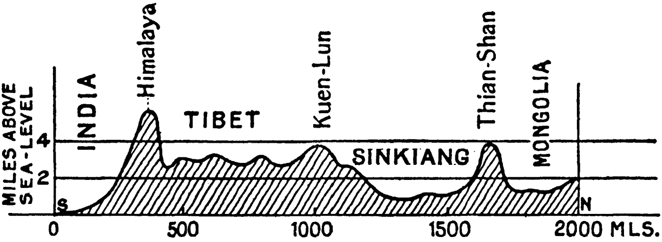


FIG. 13.—Rough Section from South to North across the outlying provinces of China in Long. 90° E.

This region once contained many more and larger cities whose ruins have recently been excavated from the sands, in which they now lie buried. Lob Nor, the salt swamp into which the Tarim drains, was also once a much more extensive lake, on whose banks flourishing cities stood. This shows that the climate of the region has become much drier than in the past and helps to explain the outward expansion of the peoples from the heart of the continent referred to in an earlier chapter.

Tibet is a vast plateau, the lowest portions of which are about three miles above sea-level, while the ranges which bound and cross it rise a further mile or more above it (Fig. 13). Note the Himalaya, Kuen-Lun and Karakoram Ranges. The glaciers that fill the valleys among these ranges feed the great rivers of India and China, which therefore come down in flood in the summer season, which is also the time of the wet monsoon in those lands. Only the southern valleys of Tibet are inhabitable, but there summer temperatures allow of the cultivation of hardier cereals and fruits. There is also pasture for the hardy yaks, which provide food, clothing material and means of transport for the Tibetans. Small quantities of gold are obtained from streams and rivers, and these, with surplus wool and hair from the flocks, are exchanged for tea and manufactured goods from China and India, the traffic being carried on by yak caravans across the high and difficult mountain passes. *Lhasa* is the largest centre of the country and is famous for the Potala, the huge palace-monastery of the "Grand Lama," or Buddhist High Priest, who practically rules the country. Isolated from the rest of the world and leading a very struggling existence, the Tibetans are suspicious of foreigners; but the British expeditions attempting the ascent of Mt. Everest were very kindly received by the officials and well served by the hardy native porters employed to transport supplies and equipment through the valleys and up the glaciers to the base camps.

MANCHUKUO

This country, about three times the size of the British Isles and containing some 30 million people, was until 1932 a province of China, but after some severe fighting between Chinese and Japanese, became an independent state. Though the chief government officials are of Chinese race, the Japanese have a strong controlling power.

It consists of the fertile valleys of the Liao and Sungari Rivers where great crops of wheat, barley, millet and soya beans are raised by Chinese colonists who have migrated northwards. The soya beans are eaten for food, but are still more valuable for the oil which is extracted from them and used in the manufacture of soap and other articles, while the refuse makes good cattle-cake. Soya bean products form the chief exports of the country. The northern forests produce valuable furs as well as timber. The rivers are important highways in summer but are frozen for several months in winter, and the country is being opened up by railways originally laid down by the Russians, but now controlled by the Japanese. Coal found near *Mukden* supplies power for the railways, oil mills and flour mills. Mukden, the old capital of Manchuria, has railways northward to join the Trans-Siberian Route at *Harbin*, southward to the ports of *Tientsin* and *Port Arthur*, and south-eastward into the Japanese territory of Korea.

With the formation of the new independent state, a new capital, *Hsinking*, was set up between Mukden and Harbin.

QUESTIONS AND EXERCISES

1. What justification, if any, is there for European interference in the affairs of China?
2. Why is civil war common in China?
3. Compare and contrast the Yang-tse with the Hwang-ho.
4. Draw a sketch map to illustrate reasons for the importance of Shanghai and Ichang.
5. How do the densely-peopled areas of China differ from those of Britain?
6. What articles of Chinese production are commonly on sale in Britain? From what parts of China do they come?
7. Compare the plateau of Tibet with the plateau of Utah.
8. What are the possible routes for a traveller from London to Peiping? Compare them as to time and general interest.
9. When is the sun directly overhead at Canton? What is the time at Shanghai when it is noon in London?
10. What do you understand by the terms loess, typhoon, China's Sorrow?
11. What advantage has Nanking over the old capital, Peking?

CHAPTER VI

JAPAN

This is one of the most remarkable States of the modern world. Although like China it had been inhabited by civilized peoples for many centuries before the Christian era, until the middle of last century it had exercised no influence at all on the outside world. The people had lived as farmers and fishermen under an antiquated sort of Feudal System and had rigidly excluded foreigners. In 1853, however, the United States insisted on opening up commerce with Japan, and shortly after that a revolution deposed the old ruling chiefs, restoring the Mikado, the spiritual ruler of the country, whose temporal power had been so long usurped. A revolution of ideas followed the political revolution and the country decided to remodel its life on western lines. Many Japanese students were sent to Europe and America and representatives from the leading powers of the West were invited to come and reorganize the life of this Oriental Kingdom. Within a generation such a transformation had taken place that Japan is now regarded as one of the Great Powers of the world; and from a self-contained and self-supporting country it has become one with large factory industries and a world-wide commerce. Whether the masses of the people of Japan are any the better for this it is not easy to say, but at any rate it has had the good effect of preventing the White Races from thinking that they have a monopoly of intelligence and ability.

PHYSICAL FEATURES AND CLIMATE

The Japanese Islands, stretching from Formosa which is crossed by the Tropic of Cancer to Karafuto 50° N., are the upstanding portions of a ridge of old folded

[Photo. E.N.A.

A TYPICAL JAPANESE VILLAGE AT THE FOOT OF FUJI YAMA.

Note the conical shape of the snow-capped mountain, the cleared rice field, and the lightly constructed houses.

mountains lying between the deep Sea of Japan and the still greater depths of the Pacific Ocean (Fig. 14A). As we have seen in the case of New Zealand and America, these are ideal conditions for volcanic activity, and it is not surprising to learn that in Japan earthquakes are of almost daily occurrence. Most of these are of course quite insignificant in their effects, but occasionally they bring widespread disaster, as in 1923, when the great seaport of Yokohama and its population were almost entirely wiped out of existence by an earthquake and tidal wave which accompanied the upheaval of the sea bed. There are a number of hot springs and active volcanoes in Japan, and *Fuji Yama,* the beautiful snow-capped conical peak, which figures in so many Japanese paintings, is an extinct volcano. The very light and graceful architecture of the Japanese is probably largely due to the frequency of earthquakes, as the collapse of houses with thatched roofs and walls of thin wood or even paper is not such a serious matter as if they were more heavily built. The 1923 earthquake, however, showed that some of the larger buildings, constructed of steel and concrete in the stronger and uglier European style, withstood the shocks better than the native structures.

The position of the highlands confines the lowlands to narrow coastal plains, across which run many short swift rivers to the much indented coast. The island-studded Inland Sea between the southern shores of Nippon and the coasts of Shikoku and Kiushiu is of surpassing beauty. In its calm waters the Japanese also gained their apprenticeship to the seas, which has made them a race of sailors with a naval and mercantile marine fit to take its place beside the best in the world.

Korea, which is part of the Japanese Empire, is a peninsula presenting a high steep front to the Sea of Japan and sloping gently to the shallow Yellow Sea. Its rivers are longer and more useful than those of the islands.

The chief factors influencing the climate of Japan are the monsoons and ocean currents. During the summer months winds come in from the Pacific, bringing abundant rainfall, the eastern side receiving rather more than the western, while temperature ranges from warm in Karafuto to hot in Formosa. In winter, when winds flow out from the cold continental mass of Asia, temperatures fall very low. The northern islands, which also come within the influence of the cold current from the Behring Sea,

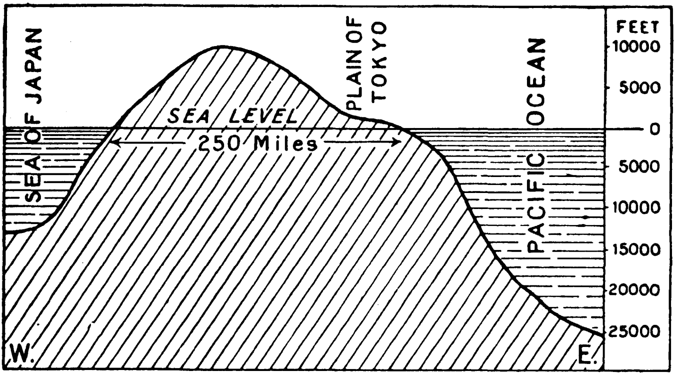


Fig. 14a.—Section across Japan in Lat. 36° N. showing how the high mountains rise from deep seas, thus favouring volcanic activity.

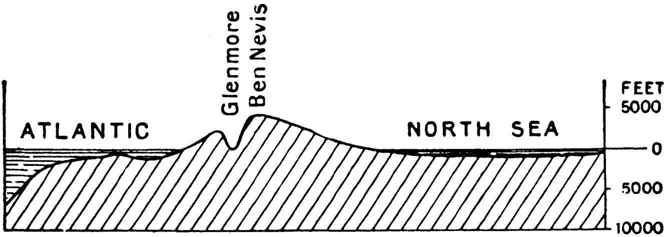


Fig. 14b.—Section across Scotland and neighbouring seas on the same scale as above.

are frozen up for many weeks, and even in the more southern islands winter is as cold as in Britain. The south-eastern portions, however, benefit from the warm Kuro Siwo. The winter there is also dry and bright, for the winds crossing the Sea of Japan pick up little moisture and drop most of it as snow on the western side of the mountainous backbone of the country. The northern parts of the country, similarly situated to Eastern Canada, experience fogs, due to the proximity of cold and warm currents off their shores.

PRODUCTIONS AND INDUSTRIES

The main industry of Japan is still agriculture, rice being the chief crop and staple food of the people. It is grown on the coastal plains where high summer temperature and rainfall and facilities for irrigation are most favourable. On the terraced hill-sides other cereals, such as wheat, oats, barley and millet, as well as potatoes and other vegetables, are also grown. The fields are usually small and cultivated by hand labour. Few domestic animals are kept, for land that might be used for pasture is more valuable for agriculture: the Japanese also are not meat-eaters. Tea, mainly for home consumption, is cultivated on the hill-slopes of the warmer southern islands. Mulberry trees are widely cultivated to supply the leaves on which the silkworms are fed, Japan being the greatest silk-producing country in the world. The silkworms are reared in the houses of the people, being kept on large trays. They feed voraciously on the leaves for about six weeks, after which they begin to spin the silk "cocoons" in which they enclose themselves. The silk used to be reeled off the cocoons by hand, but this is now mainly done by machinery in factories, and in 1932 over fifty million pounds worth of silk and silk goods were exported from Japan.

Most of the mountain slopes, especially in the northern islands, are covered with valuable timber, and Japan is of course famous for its flowering trees and shrubs, which add picturesqueness to every Japanese landscape. The camphor tree thrives in Formosa and is carefully cultivated, that island being the chief source of the world's supply of camphor. Lacquer varnish, so much used in Japanese decorative art, is made from the gum of trees. The bamboo forests of Formosa provide much useful material for constructing the dainty houses and furniture for which Japan is famous.

Fishing is an important industry, employing nearly a million people, and producing a foodstuff second only to rice in importance. The cooler and shallower seas around the northern islands are the more valuable fishing grounds.

Japan has considerable mineral wealth which is now being rapidly developed. Coal is by far the most important, being sufficient to supply power for the factories and steamships, and a small surplus for export. The most valuable coalfield is in Kiushiu, behind the naval port of *Nagasaki*, and there is a smaller one behind *Hakodate* in Hokkaido. Near the former are also supplies of iron ore, and iron and steel works have been established there. There are valuable deposits of copper in the central mountain districts and smaller supplies of gold and silver. The volcanic areas produce sulphur, which is utilized in the making of matches. Kaolin, from disintegrated granitic rocks, is the raw material of the famous Japanese porcelain industry.

In the larger cities and seaports many factories have been established on European lines, and machine methods of large-scale production have been applied to many of the hand industries of old Japan. Owing to the very low wages paid, goods can be produced much more cheaply than in most manufacturing countries. Consequently Japan has become a formidable competitor in the world's markets. The country has also become a great producer of textiles and metal goods. She imports cotton from India, the United States and China, and turns out large quantities of cotton goods for home consumption and export to China. During recent years greater attention has been paid to improving the quality of the cotton goods produced, and with this object in view Japan has greatly increased her import of better-class raw cotton from U.S.A. With her low cost of production she has thus become a serious rival of Lancashire. Rails and rolling stock for the railways are also made in Japan and she has fine shipbuilding yards capable of turning out the largest vessels. Japan has thus become a large importer of raw materials for her industries, and also has to import considerable supplies of foodstuffs, especially rice, for the workers in them. These are purchased with the products of the industries, especially those concerned with silk and cotton.

POPULATION, CITIES AND COMMUNICATIONS

As in Britain the people of Japan appear to have been derived from invaders from various parts of the adjoining continent at different times in their history. The Japanese have characteristic Mongolian features, but are shorter than the Chinese and Koreans. In Hokkaido live the Ainus, who seem to be descended from the aboriginal peoples that were driven into the less favourable lands by the invaders. They show a likeness to the White Race rather than to the Yellow, but their civilization is certainly lower than that of the Japanese. The latter are hardy, skilful, artistic, frugal, clean, kindly, unemotional and intensely patriotic. They live in small lightly-built houses consisting of a single large room subdivided by light sliding partitions of thin wood or paper. They have little furniture and sleep on the thin straw mats that cover the floor, using a quilt of cotton or silk stuffed with down or cotton wool to keep them warm. Their simple meals are cooked outside the houses and the people sit on the floor to consume them. Japanese temples are picturesque wooden structures, elaborately carved and ornamented, and set among trees and flowers : the forms of worship are simple and involve a veneration of the powers of Nature and heroic ancestors : there is complete religious freedom.

The bulk of the population live in villages in the coastal plains, which are densely peopled, especially in the warmer south. On the coast have grown up a number of large towns (Fig. 15). In 1930 the main islands of Japan, which are slightly larger than the British Isles, had a population of 64 millions.

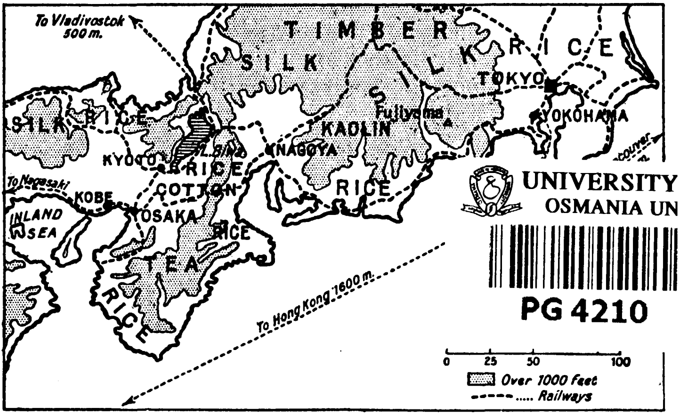


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Fig. 15.—The most productive region and six largest cities of Japan.

Tokyo, a city of five million people, is the capital. It owes its importance to its central position and the relatively large and fertile plain around it. Its small harbour on the Bay of Tokyo was superseded by the more modern port of *Yokohama*, which had deeper water nearer the entrance to the bay, and although its docks and wharves and warehouses suffered so severely in the earthquake of 1923 it is rapidly being reconstructed. Railways radiate from the capital northward and southward along the coastal plain of Nippon, and one crosses the mountains to *Niigata* on the west coast. This port is only two days' journey from Vladivostok, the terminus of the Trans-Siberian Railway, which provides the shortest route from Japan to Europe. Tokyo has hotels and shops, offices, factories and tramways, like those of a European or American city, but its suburbs fortunately retain their characteristic Japanese appearance. Ships of all nations may be seen in the Bay of Tokyo, and important routes radiate from it to Vancouver, San Francisco, New York (via Panama), Shanghai, Hong Kong, India and Western Europe. Fine Japanese liners and cargo boats are often seen in London and other British ports.

Osaka is a large manufacturing city, and *Kobe* a big seaport on the shores of the Inland Sea. These cities are centrally situated in the most densely-peopled part of the country, and have easy communication with the old capital, *Kyoto*, near Lake Biwa, as well as with the newer Tokyo. This region is the centre of the modern cotton-spinning and weaving industry, as well as of the ancient industries in silk, porcelain, bronze and lacquer goods, all of which supply articles for export.

Nagoya, situated in the midst of a fertile plain between the old and new capitals, is another large city. Local supplies of kaolin account for its porcelain industry, and it also makes paper and matches.

Nagasaki, on a fine harbour, with local supplies of coal and iron, has developed an important shipbuilding industry. Its naval station commands the passage between the China Sea and the Sea of Japan, and it has a packet service to *Fusan*, the nearest port of Korea.

Hakodate is the largest town of Hokkaido. It has a good harbour, with an important fishing industry, and has rail connection to coal and sulphur mines in the interior.

Besides the various railway routes mentioned most of the larger cities, being seaports, are also connected by coasting steamers. Roads are poor, their upkeep being difficult owing to steep gradients and heavy rainfall. The two-wheeled ricksha drawn by a coolie is the common vehicle of the country.

Questions and Exercises

1. Japan has been called the "Britain of the East." Give reasons for this.

2. Compare Japan with New Zealand.

3. From a map in your atlas draw a section across Great Britain from the Atlantic to the North Sea on the same scale as Fig. 14, and compare the two.

4. Find from a newspaper the names of Japanese lines of steamships which enter British ports. What cargoes will they bring and take away?

5. The following figures give the value of the chief imports and exports of Japan for 1932 in millions of yen (1 yen = 2*s.* 0½*d.*).

Imports: Raw Cotton, 447; Iron and Steel, 110; Wool, 88; Wheat, 50; Beans and Peas, 42; Mineral Oil, 37; Oil Cake, 35. Total, 1,431.

Exports: Raw Silk, 382; Cotton Goods, 331; Silk Goods, 112. Total, 1,410.

From U.S.A., 342; China, 146; India, 133; Australia, 113; Great Britain, 63. Total, 1,431.

To U.S.A., 425; China, 156; India, 110; Dutch Indies, 63; Great Britain, 52. Total, 1,410.

Represent these statistics graphically, and comment upon what they show. The imports and exports of Britain for the same year totalled £703 million and £416 million respectively. Compare these with the figures for Japan. What does the comparison indicate?

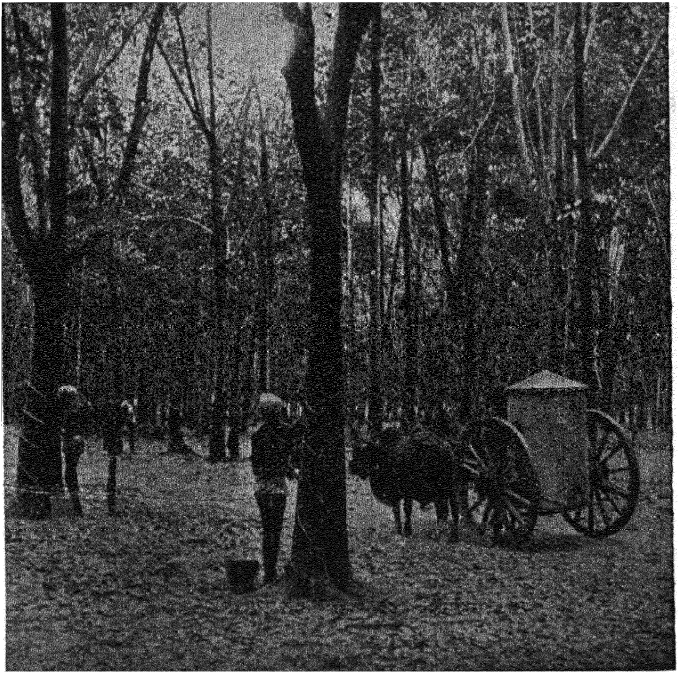
CHAPTER VII

INDO-CHINA AND THE EAST INDIES

This region includes the independent country of Siam, French Indo-China, the British possessions on the Malay Peninsula and the island of Borneo, and the great Dutch colonies of the East Indies.

Physically it is a region of high folded mountains, bordered by broad river valleys on the mainland and by narrow coastal plains on the peninsula and islands. As many of the ranges rise from deep seas there is much volcanic activity, especially in the islands of Sumatra and Java, where mountains over two miles high rise steeply from parts of the Indian Ocean exceeding four miles in depth! The island of Krakatoa in the Strait of Sunda experienced the most severe and spectacular volcanic eruption of modern times in 1883, half the island being blown away. The mountains are rich in minerals, those of the Malay Peninsula and the adjoining islands of Banka and Billiton producing more than half the world's supply of tin. There are rich petroleum wells in Sumatra and British Borneo, and the latter, with the adjoining island of Labuan, has supplies of coal. Siam also produces gold and precious stones, and gold and coal are mined in the Philippine Islands.

The great river valleys of the Menam and Mekong, with a monsoon climate, are cultivated for rice, sugar-cane, cotton and spices, and the coastal plains, with greater heat and rainfall, produce all these crops, with rubber, coconuts, sago and bananas as well. The people are mainly rice-eaters, but all the riverside and coastal



[*Photo: Malayan Information Bureau.*

MALAY RUBBER PLANTATION.

Notice the incisions in the bark, the bullock cart for collecting the latex and the Tamil workers.

peoples, especially on the islands, are great fishermen, many of them living in huts built on piles standing in the water. Much of the region is covered with dense jungle infested with wild beasts and reptiles, and inhabited by half-civilized hunting tribes. The people of Siam and the French territory are of the yellow race and very similar to the Chinese; but those inhabiting the Peninsula and islands are darker brown in colour and generally at a lower stage in civilization, as is usually the case with forest peoples. Large numbers of coolies have come from China to work in the mines and on the plantations, and actually outnumber the Malay peoples. Many Tamil coolies from Southern India are also found, especially in the rubber plantations of the Malay States, which produce more than half the world's supply of indiarubber. Copra, as sun-dried coconut kernels are called, is an important export of the region, while on the hill-slopes of Java the Dutch have also established tea and coffee plantations.

Singapore is the most important city and seaport of the region. It is situated on an island (Fig. 16) at a point where routes from India, China, Japan and Australia converge, and as it has a good harbour, which the British have kept free to the commerce of all nations, it has become the great market for the region. It collects tin, rubber, copra and spices for export, and imports rice, cotton goods, machinery and many other manufactured goods from Britain, Europe, the United States and Japan, for distribution in the surrounding countries. A railway crosses to the mainland by the Johore Causeway and runs northward through the other Straits Settlements (Malacca and Penang), and the Federated Malay States to Siam. It is an important naval coaling station and is well fortified. Most of the local trade is in the hands of Chinese traders, but there are very important British interests in Singapore. It is an important airport on the British route to Australia.

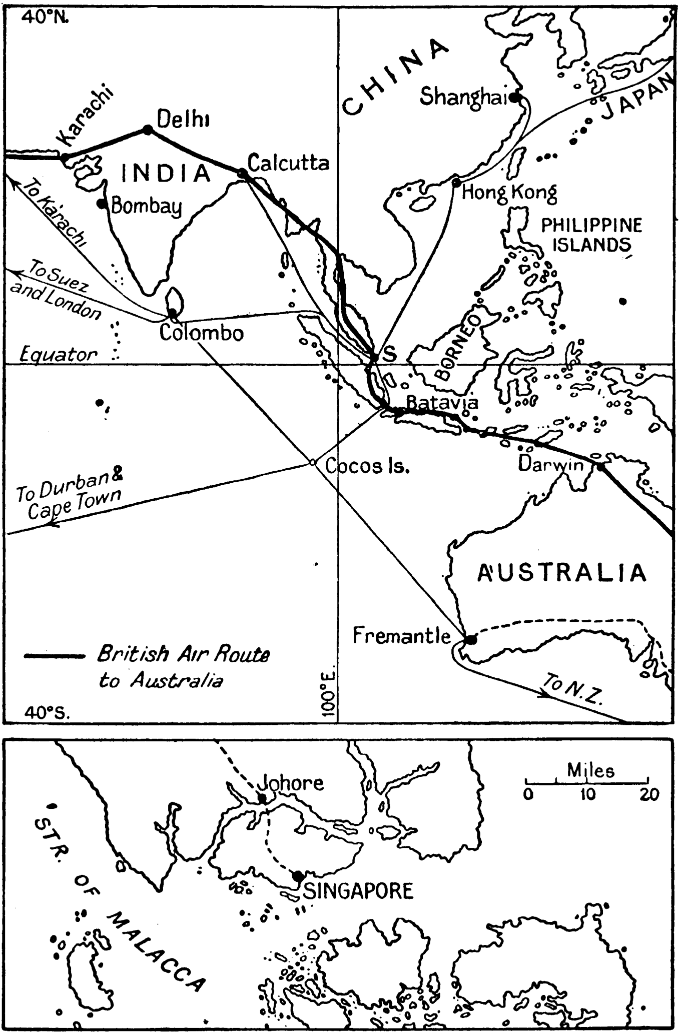


FIG. 16.—The Importance of Singapore.
(*a*) World Position. (*b*) Local Situation.

Batavia is the political and commercial capital of the Dutch East Indies, and is a well-laid-out town, with a fine harbour. It has railway connection with all parts of Java, which under careful Dutch administration has become the most densely-peopled tropical island in the world. Its chief exports are copra, rubber, tea, coffee, tobacco, cinchona and tin.

Bankok, at the head of ocean-going navigation on the Menam, is the capital of Siam, and quite a large city. It is pleasantly situated and well laid out, and has many of the amenities of a European city added to great native charm. As in Burma, the chief exports are rice and teak.

Saigon is the chief city of French Indo-China. Situated to the east of the delta of the Mekong, it is the outlet for the surplus rice and sugar grown in the valley of that river.

Hanoi is an important centre in the Tongking protectorate. Its port, *Haiphong*, exports rice, mainly to China, and has a railway to rich mining districts in the interior along the Chinese border.

Manila, the capital of the Philippine Islands, has a fine natural harbour, well sheltered from the fierce typhoons which occasionally sweep the South China seas. Its exports consist of the two main products of the islands, tobacco and hemp. The former makes fine cigars and the latter provides the strongest kind of rope-making material. Sugar and coffee are also grown and exported, and there are coalfields on the main island to the south-east of Manila.

QUESTIONS AND EXERCISES

1. The values of the imports and exports of the Straits Settlements (Singapore, Penang and Malacca) in 1931 were as follows :

Imports : Motor Spirit, 8 ; Rice, 6 ; Rubber, 2 ; Cotton Goods, 2 ; Petroleum, 1 ; Tobacco, 1 ; Fish, 1 ; Sugar, 1 ; Machinery, 1. Total, £53 million.

Exports : Rubber, 14 ; Tin, 10 ; Motor Spirit, 6 ; Copra, 2 ; Rice, 2 ; Fish, 1 ; Pineapples, 1. Total, £47 million.

From United Kingdom, 7 ; Other British Possessions, 8 ; Foreign Countries, 38.

To United Kingdom, 5 ; Other British Possessions, 6 ; Foreign Countries, 36.

Represent these statistics graphically and comment upon what they show.

2. In what occupations do British people find employment in this region ?

3. How and when did European countries first become interested in this region ? Why are they still interested in it ?

4. Why have the Malay States outstripped Brazil in the production of rubber ?

5. By what route would a shipload of tin ore reach Swansea from Singapore ?

CHAPTER VIII

INDIA

This is a region nearly two million square miles in area, with a population of more than three hundred and fifty million. Over half of the area and two-thirds of the people are in Provinces under British Government. The rest consists of many States of various sizes under native rulers, who govern in their own ways so long as they do not conflict with British interests. The diversity of the peoples in India is shown by the fact that more than twenty different languages are each spoken by over a million people, so that India is more like a continent than a country. The very early inhabitants of India, spoken of as Dravidians, seem to have been pushed into the less desirable parts, such as the more hilly portions of the Deccan and the unhealthy Ganges Delta, by invaders from the north-west. The Dravidians are dark in colour, short in stature, and at a rather low stage of civilization.

The invaders were taller and fairer and more like European peoples. They established settled agricultural communities in the northern plains and developed the arts and crafts, architecture and literature for which India has long been famous. Their language was of the Aryan Group, from which most European languages have been derived, as well as the languages spoken by two-thirds of the people in India to-day. They also introduced the system of "caste," which is the outstanding feature of Indian civilization. The original castes or classes of people were the priests, the warriors, the merchants and the labourers, but each of these have been subdivided again and again. Members of the various castes do not mix with those of an "inferior" caste, nor is intermarriage between members of different castes allowed. The lower castes are divided chiefly according to trades such as potters, weavers, water-carriers, etc. This caste system has resulted in keeping at least the higher castes of a very fine type, but many of the people of the Ganges plains seem to be of mixed Aryan and Dravidian stock.

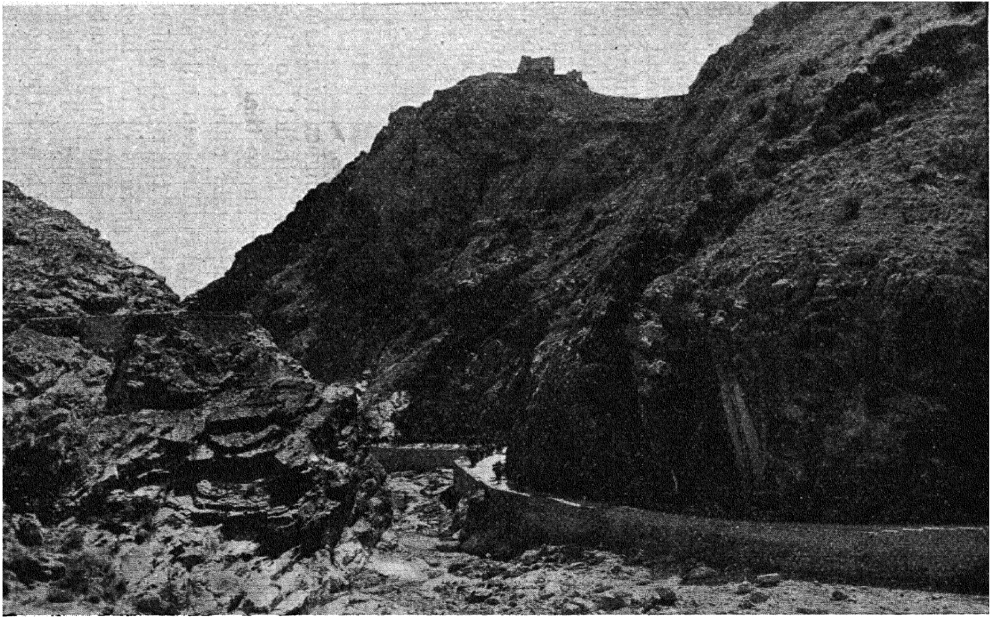
The north-eastern frontiers offered greater obstacles to invasion, but in Burma and the adjoining provinces there is a distinct population belonging to the Yellow Race, and in the delta of the Ganges and Brahmaputra Rivers the people seem to be of mixed Mongolian and Dravidian descent.

The Mahrattas of the western Deccan are believed to be descendants of peoples who came from the steppes of Asia at various times through the north-west passes, and although unable to conquer the settled peoples of the plain passed on with their flocks and herds to the poorer regions of the Deccan, where they overcame and mixed with the Dravidian peoples.

The great Mohammedan invasions of the eleventh and twelfth centuries brought new rulers and a new religion to India, but made no great changes in the people. Similarly the coming of the British in the eighteenth and nineteenth centuries, first as traders and then as rulers, after the conquest of the Mohammedan Mogul Empire, brought a new form of government to India, but even now there are only about a hundred thousand British people in the country. The native peoples are being gradually educated in western ideas of government, and it is hoped that ultimately India may become a self-governing portion of the British Empire. Some of the larger and well-marked natural regions of India will now be considered in more detail.

THE NORTH-WEST FRONTIER

This is a high plateau crossed by still higher mountain folds. The summer monsoons blow parallel to the ridges and bring little rain to the region, so that it is a semi-desert with very hot summers and rather severe winters due to its elevation. Agriculture can only be carried on by irrigation in the valleys of the rivers which are fed by the melting snows and glaciers of the high ranges. In these villages various cereals and fruits come to perfection if carefully cultivated. The hill-slopes provide pasture for sheep and goats and the more level plateaux for cattle and camels. The region is scantily inhabited by fierce and independent tribesmen, who are always a menace to the settled peoples living in the plains of the Indus. Two important passes should be noted, as through them have come most of the in-



[*Photo:* *E.N.A.*

A CAMEL CARAVAN ON THE ROAD THROUGH THE KHAIBAR PASS.
Compare the scenery with that shown on page 29.

vasions of India, and the keeping of them safe for the caravan trade between India and Afghanistan is one of the problems of British government in India.

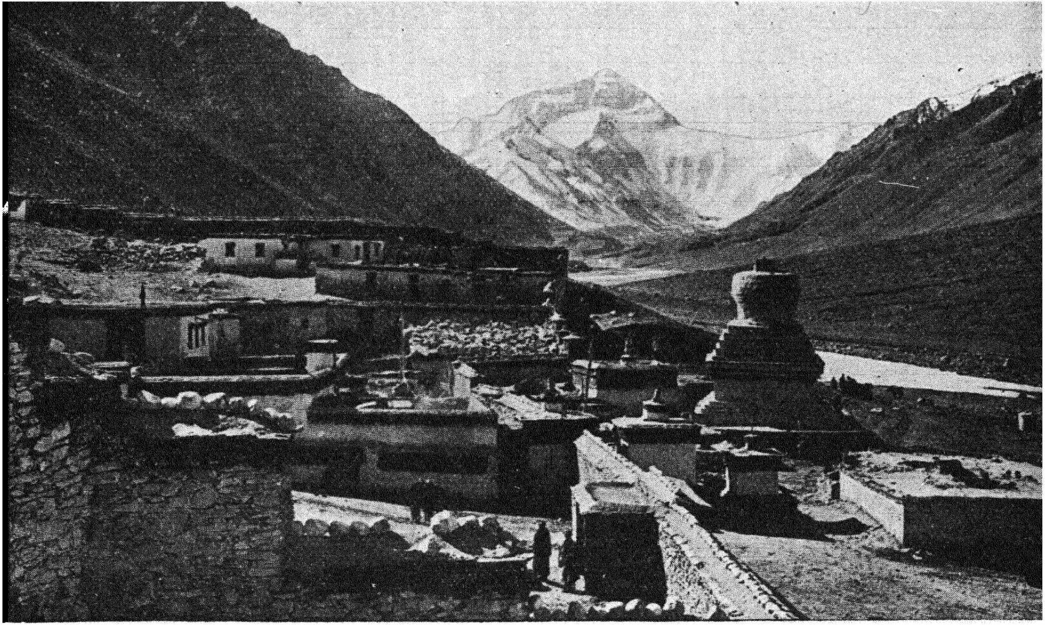
The *Khaibar Pass* runs parallel with the rocky gorge of the Kabul River, and through it has recently been constructed a railway, which will probably help in the defence of the pass, and may also help to develop the trade in wool and fruits from the one side and tea and cotton goods from the other. *Peshawar* is the British garrison town at the Indian end of the pass.

The *Bolan Pass*, further south in Baluchistan, is also traversed by a railway, which runs to the military station of *Quetta*.

The Himalaya Mountains

This, the greatest folded mountain system in the world, extends for fifteen hundred miles along the northern frontier from the gorge of the Indus to the gorge of the Brahmaputra. For most of its length the main chain exceeds four miles in height. Mt. Everest, over 29,000 feet, is the highest mountain peak in the whole world, but several other Himalayan giants approach it very closely. The name Himalaya means "abode of snow," for such it is to the Hindu, who sees its glistening peaks from the sweltering plains below. The few passes of the Himalaya, across which any communication between India and Tibet must go, are so high that they can only be negotiated by the hardy yak, whose lungs are acclimatized to the rarefied atmosphere and low temperatures there experienced, and the equally hardy traveller, be he Tibetan, Hindu or British.

The summer monsoons, laden with moisture from the Indian Ocean, deposit heavy falls of rain on the lower and snow on the upper slopes, as the air is cooled in rising over this great barrier. Thus the higher valleys of the Himalaya are filled with some of the greatest glaciers



Mount Everest and the approach to it by the Rongbuk Valley and Glacier.
Note the Buddhist monastery at which the British Mount Everest Expeditions have been entertained.

in the world, and their melting helps to supply the great rivers of Tibet and Northern India with water to irrigate the drier plains below. Notice on the map the upper courses of the Indus and Brahmaputra in the great downfold behind the mountain chain, and the many rivers that flow from the southern slopes to the lower courses of these rivers, and also to the mighty Ganges, the greatest river of India.

Below the snowline the lower ranges of the Himalaya are covered with fine forests of pines, cedars and oaks, and many beautiful flowering plants, such as rhododendrons. Some of the upper valleys are well cultivated, notably the picturesque and fertile Vale of Kashmir, through which runs the Jhelam tributary of the Indus. The goats of the hill pastures of this State provide the silken hair which is woven into the famous Kashmir shawls. Among the foothills of the Himalaya at a height of a mile or more above the plains are several well-known hill-stations, used chiefly as summer health resorts by British officials. Such are *Simla*, the summer residence of the Viceroy, and *Darjeeling*.

The latter place and the southern Himalaya to the east of it, especially in Assam, are famous for their tea plantations. The tea plant is a shrub with fresh green leaves, which are carefully selected and picked by the natives and afterwards allowed to wither and ferment on trays in drying sheds. The curled and blackened leaves are then thoroughly dried, sorted and packed in wooden chests, lined with lead foil to exclude damp, and sent down to Calcutta for export. The tea-plant needs a hot, wet climate and well-drained land, but can only be grown profitably in a densely-peopled district where the large amount of necessary hand labour can be cheaply obtained.

At the foot of the central Himalaya is the hot, wet Terai jungle, infested with poisonous reptiles and wild beasts, including the dreaded man-eating Bengal tiger.

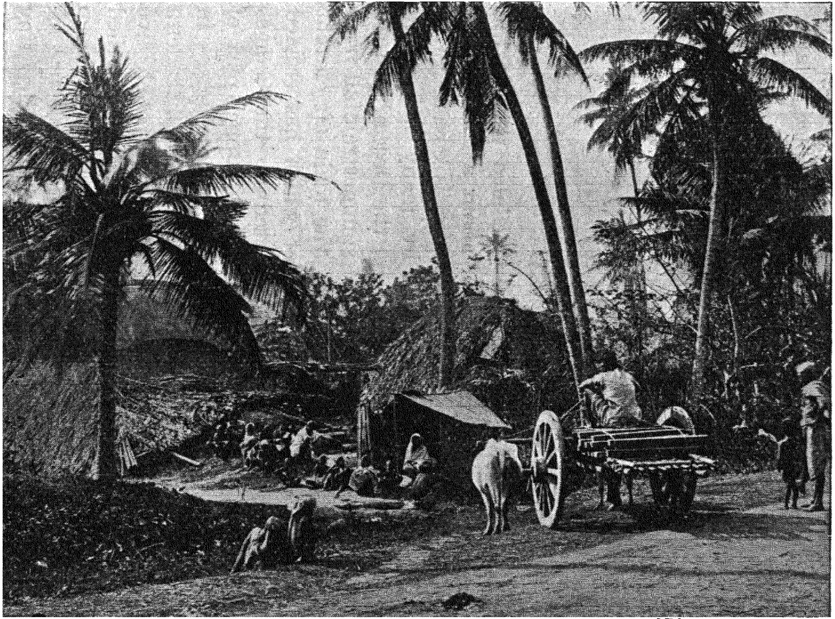
Chirrapunji, in the Khasi Hills of Assam, boasts the highest recorded rainfall in the world—over 40 feet per annum! (Fig. 17).

THE PLAIN OF THE INDUS

This is a region which is very fertile where water can be obtained for irrigation, as the rainfall is scanty and the heat of summer very great. The upper part of the plain is known as the *Punjab,* or land of the five rivers. Here the Indus and its four great tributaries have allowed of the construction of thousands of miles of canals to irrigate the land between them. There are also hundreds of thousands of wells. The industrious Sikhs who live in this region grow crops of rice, millet and cotton in the summer months, and wheat and barley in the winter, when temperatures are as high as in an English summer. The wheat is grown mainly for export and to allow of the purchase of manufactured goods from abroad. On the bordering hill-slopes and poorer lands away from the rivers, many sheep are reared by semi-nomadic peoples. Besides agriculture many of the people of this region engage in manufacturing industries, using up the local supplies of cotton and wool to make clothing and carpets. These industries are largely carried on by hand in the homes of the peoples, but machine factories have now been established in the larger centres.

Lahore, the largest city of the Punjab, is on the Ravi and its importance is increased by the great East India Railway, which crosses the river at that point. *Amritsar,* the great centre of the Sikh religion, lies in the fertile " doab " between the Ravi and the Sutlej, and is famous for its fine carpets. *Multan* is an important wheat-collecting centre, connected by rail with Karachi.

Notice that the lower Indus flows through a much more thinly-peopled region. It is of little use for navigation owing to its uncertain volume in winter, its fre-



[*Photo:* ***E.N.A.***

AN INDIAN VILLAGE.

Note the very poor houses, the coconut palms and the bullock waggon.

quently changing course due to the gradual silting up of its bed, and the delta at its mouth.

The recent construction of a huge dam across the lower valley of the river at *Sukkur* has enabled a large area to be brought under irrigation. Cotton is the chief crop grown.

Karachi, placed to the west of the delta to prevent silting up of its harbour, is the chief wheat port of India and the nearest Indian seaport to Britain. It is connected by rail with the Punjab and the north-west frontier stations. It also exports cotton.

THE PLAIN OF THE GANGES

This region is the most densely peopled part of the whole country and is the home of about a third of the whole population of India. The region is covered with fertile alluvial soil and watered by many fine rivers from the Himalaya to the north and the Deccan Plateau to the south. It receives a heavy summer rainfall from the south-west monsoon (Fig. 17), the main air current from the Arabian Sea meeting that which has crossed the Bay of Bengal and been diverted up the Ganges Valley by the mountain barriers. In the upper part of the valley irrigation is necessary, and is supplied, as in the Punjab, by wells and canals, but nearer the delta the rainfall is sufficient. The mass of the people live in small villages of single-roomed mud-walled thatched houses, which serve as shelters from the rain and to sleep in, but offer little or no comforts. The people are intensely poor, living on the scanty produce of their tiny fields, and if the monsoon fails, as it sometimes does, there is widespread famine, disease and death. The worst results of these famines have been mitigated since the British occupation by the construction of more and better irrigation works, and by the building of railways, which enable supplies to be brought from more favoured parts of the country. The clothing of the people is

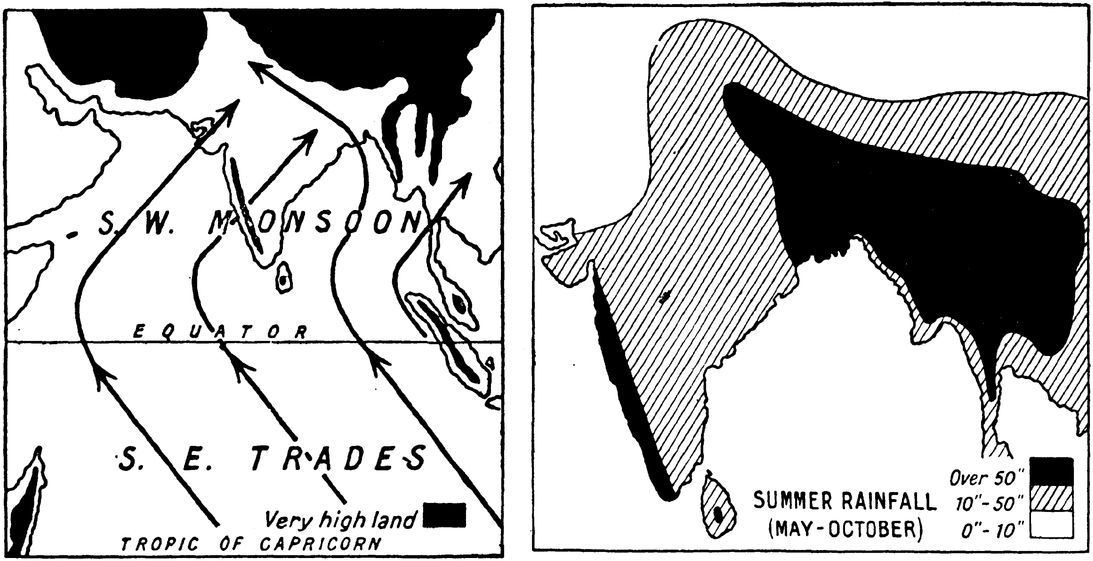


FIG. 17.—The Summer Monsoon of the Indian Ocean.—Note (i) the vast area of sea over which the Monsoon winds travel before reaching India ; (ii) the heavy rainfall where the S.W. Monsoon is forced to ascend either by meeting high land, e.g. the Western Ghats, or by meeting the deflected Monsoon current over the Ganges Valley.

scanty and made of cotton cloth. Some of this is the product of local hand spinning and weaving industries, some made in modern machine factories in India, and the rest imported from Lancashire or Japan.

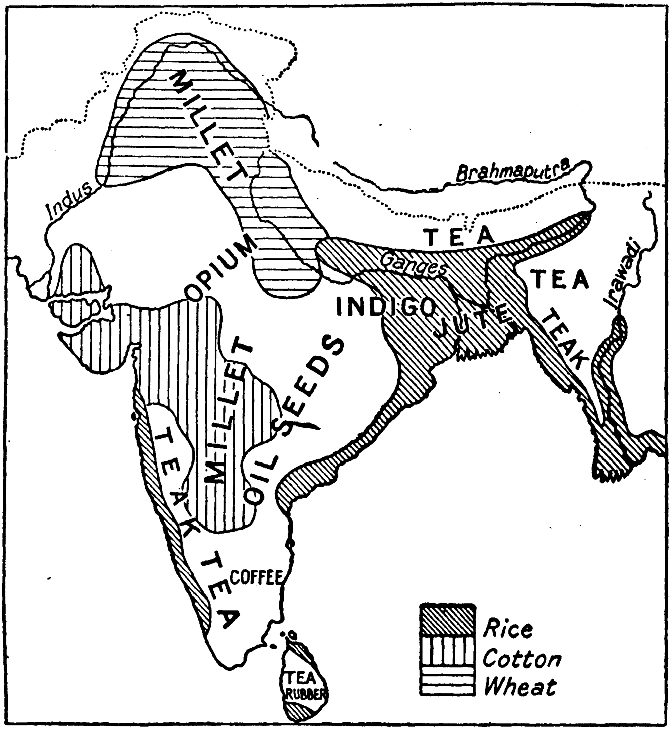


FIG. 18.—Chief Crops of India and Ceylon.

Millet is the chief food grain of the people in the drier parts and rice in the wetter districts, or where plenty of water can be obtained for irrigation (Fig. 18). In the upper valley wheat is cultivated for export. The opium poppy is also cultivated, its seed-pods providing the drug, which is valuable as a deadener of pain when taken under skilled advice, but disastrous in its effects on those who have become slaves to the opium habit. The great fibre crop of the Sundarbans, as the delta of the Ganges-Brahmaputra is called, is jute, which flourishes in the swampy land. The fibres, obtained from the bark by "retting" in water (cf. flax), are yellow in colour and about 6 feet in length. Jute is manufactured in the mills of Calcutta into sack-cloth and bags, or exported to such places as Dundee, where it is used for similar purposes or in the manufacture of carpets, canvas, and even finer textiles. Jute and its products are the largest exports of India.

At various points along the Ganges and its tributaries have grown up large and famous cities with gorgeous palaces and temples and bazaars, in which are displayed for sale characteristic Hindu works of art in brass, silk, wood, ivory and precious stones.

Delhi, on the Jumna, has been a capital city since very early times, the fine modern British city being within sight of the ruins of many others. Its site is important as controlling the great natural route between the Himalayan barrier to the north, and the Thar Desert to the south, which linked the fertile plains of the Indus and the Ganges (Fig. 19). Its modern importance is increased by the railways which converge upon it from the old gateway of the Khaibar Pass and the modern gateways of Bombay and Calcutta. It is much healthier and much nearer the Viceregal hill-station of Simla than is the latter city, which was the earlier British capital.

Allahabad and *Agra* are other important junctions of river valleys and railways. The former is an old religious and trading centre, and the latter is famous for the Taj Mahal, regarded by many as the most beautiful building in the world. It is constructed of white marble and was built for a tomb by one of the Mogul Emperors.

Lucknow on the Gumti and *Cawnpore* on the Ganges are important market towns, which figured largely in the Indian Mutiny of 1857. The latter has important cotton and leather industries.

Benares is the greatest religious centre of the Hindus, and thousands of pilgrims may always be seen on the "ghats" or steps leading down to the sacred Ganges. Funeral pyres may always be seen on the Burning Ghat.

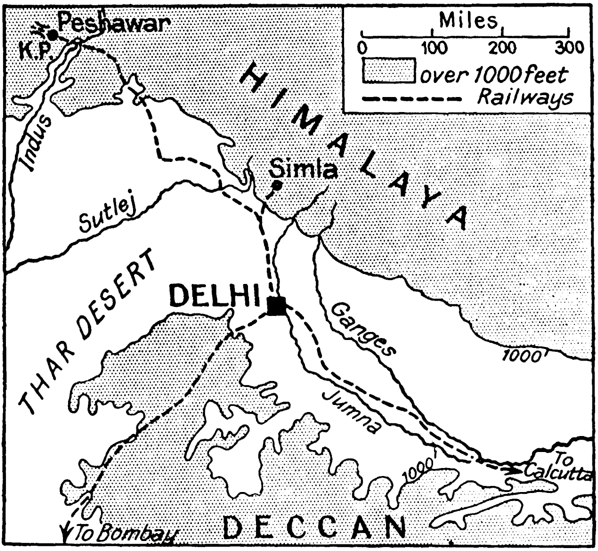


FIG. 19.—Important factors in the growth of Delhi.

and the faithful Hindu wishes nothing better than that his ashes should be scattered on the sacred river.

Calcutta, the former British capital, is still the largest city in India, having over a million people. It was established at the limit of ocean-going navigation on the Hugli distributary of the Ganges (Fig. 20), and was thus the gateway to the fertile and thickly-peopled Ganges Plain, which provides cargoes of various kinds for export and a market for imported goods from Britain. The

East India Railway, which starts at *Howrah* on the opposite bank of the Hugli, and traverses the great plain with many branches, brings much trade to the port; so that although the navigation of the Hugli is difficult, especially in the rainy season, Calcutta is still the chief port of India. To the west of Calcutta on the north-east corner of the Deccan is India's greatest coalfield, which supplies fuel for railways and shipping, power for the jute mills, and coal for export to other parts of the country, and coaling stations in the Indian Ocean. Calcutta is also the chief port for the shipment of tea from the plantations of Assam.

THE DECCAN AND ITS BORDERS

The Deccan is a triangular-shaped plateau of old hard rocks, with a high and steep escarpment on the west, and a lower one on the east, where the coastal plain is wider. Most of the rivers naturally run therefore from west to east. They have excavated rather deep gorges in the plateau, and have built up extensive deltas in the Bay of Bengal, so that they are not very useful for navigation. In the north-west of the Deccan, however, will be noticed two large rivers, the Narbada and the Tapti, flowing from east to west. This change is due to a volcanic upheaval of this portion of the Deccan at a remote period, which has also had other important effects on the region. The volcanic basalt which was poured out at that time spread over vast areas, and in the course of ages has weathered down into a rich black soil, which is very retentive of moisture. As in Africa, which is believed at one time to have been joined to the Deccan, the plateau descends to the sea in a series of steps known as the Western Ghats and the Eastern Ghats respectively.

The Western Ghats receive the full force of the south-west monsoon, which usually " bursts " in May, bringing torrential downpours. The heavy summer rains make the west-coast plain and the Ghats well forested and provide abundant water for irrigating the rice fields in the cleared portions of the plains. In the Nilgiri Hills to the south are plantations of tea and coffee, while many fruits and spices, such as mangoes and pepper, are cultivated to make the common diet of rice more palatable. Water is also stored in lakes and reservoirs among the Ghats to provide water power for the cotton mills of Bombay and other places.

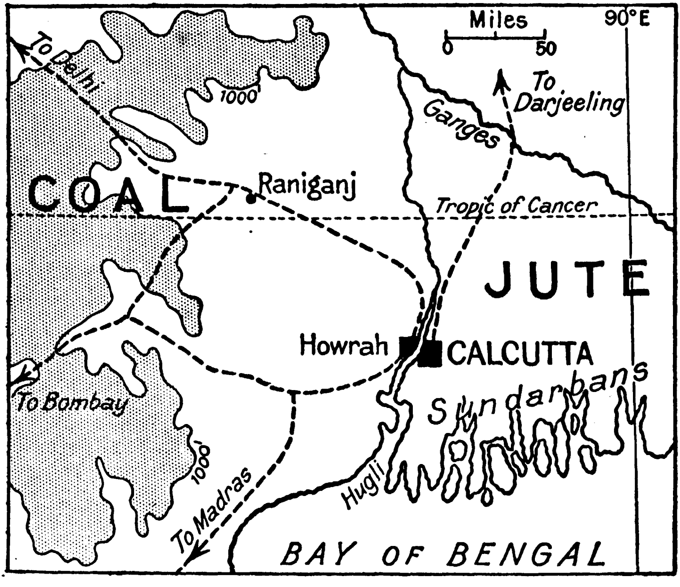


FIG. 20.—Local factors in the growth of Calcutta.

The Deccan behind the Western Ghats gets a much scantier rainfall, and irrigation is necessary if crops are to be grown, except in the black-soil region referred to above. This is the great cotton-growing region of India. The crop, however, is short in staple, and does not find favour in Lancashire, but it supplies the important

Indian cotton industry, and Japan is also a good customer for Indian cotton. Rice is grown under irrigation in some of the valleys, but millet is a more important food crop on the Deccan. Wells and canals are not easily constructed in this region, and the irrigation schemes here consist of damming up streams and rivers to form artificial lakes called "tanks," which retain water during the dry season.

Some of the drier parts of the plateau are given up to cattle and sheep rearing, but many of the wetter parts of the Deccan, especially in the south and the north-east, are covered with a scrubby sort of jungle, which is of little use. The coalfield of the north-east has already been referred to; manganese, used in the manufacture of high-grade steel, is mined near Nagpur, and gold in Mysore.

The east-coast plain, especially in the river deltas, is well cultivated and thickly peopled. The southern part, unlike the rest of India, gets most of its rain in winter from the north-east monsoon, and in the hot summer irrigation is very necessary. For this purpose the excess of rainfall in the winter is stored in large "tanks." The region grows large crops of sugar-cane and oil-seeds, as well as rice. The oil-seeds provide oil for food and for outward application, and vast quantities are exported to Britain, where they are used in the manufacture of soap, lubricating oils and cattle cake.

Bombay is the great port of the Deccan region. It has the finest harbour in India, being sheltered from the south-west monsoon by the island on which it stands (Fig. 21). It is the first Indian port of call for British mail-boats, via the Suez Canal, and a week's voyage nearer to London than is Calcutta. It is the terminus of the Great Indian Peninsular Railway, with important routes climbing the Western Ghats by difficult zigzags and proceeding via Jubulpur to Allahabad via Nagpur and the Raniganj coalfield to Calcutta, and via the hill station of Poona to Madras. A further important railway runs northward through Surat, Baroda and Ahmadabad to Delhi. These railways bring in much produce from the Upper Ganges Valley as well as the Deccan cotton and manganese ores for export, and are also the chief mail and passenger routes of the country. The cotton mills of Bombay, using coal brought by rail and water power from the Ghats, are increasing in importance every year. The city has over a million people and is the great rival of Calcutta.

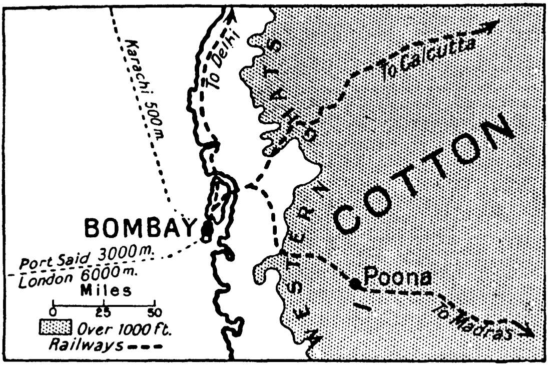


FIG. 21.—Factors in the growth of Bombay.—Note the sheltered harbour, the fertile cotton-growing soil of the Deccan, the water-power from the Ghats and the important railways.

Madras, the third largest city of India, has only half a million people, and although it is an ancient and important Hindu city its commerce is relatively small, owing to its poor harbour on a surf-beaten coast. It exports hides from the Deccan pastures and also cotton and silk fabrics.

Hyderabad, the fourth city in India, is the capital of the Nizam, who is regarded as the chief of the native rulers of India. It is centrally situated in a good defensive position and near to the famous diamond mines of Golconda, which once formed the chief wealth of the State.

BURMA

This is a folded mountain region whose ridges and valleys run from north to south (Fig. 22). The mountains receive abundant summer rainfall from the south-west monsoon, but some of the interior valleys are rather dry and irrigation from the rivers is necessary. The mountains in the north contain valuable supplies of tin and precious stones, especially rubies, and there is also coal, while in the upper valley of the Irawadi are valuable supplies of petroleum.

The flooded rice fields of the Irawadi and Salwen valleys are the chief source of wealth of the region, providing the staple food of the people and a large surplus for export to the more thickly-peopled rice-eating districts of India and Japan. The teak forests of the mountain slopes are also very valuable. Teak wood is hard but easily worked, and takes a fine polish, so that it is used for making furniture. It also resists water and the attacks of ants and other burrowing insects, and is therefore used in the construction of ships and railway carriages. The trees are tall and thick, and the great teak logs are floated down the rivers to the timber yards, where trained elephants are used to move them from place to place.

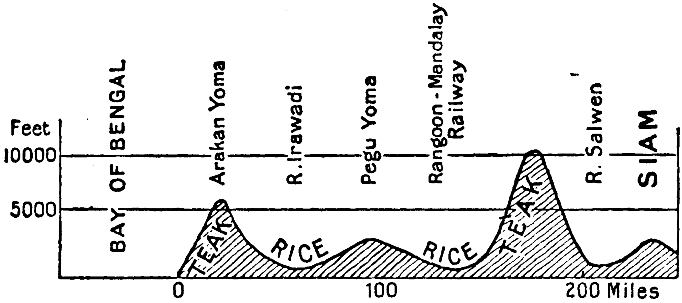


FIG. 22.—Rough section across Southern Burma, showing parallel ridge and valley formations.

Rangoon is the largest city and chief seaport of Burma. It is situated on an inlet to the east of the Irawadi Delta and is connected by railway with the valley of the river. It has rice-mills and saw-mills for preparing the two chief products of the country for export, and also exports petroleum. *Mandalay*, the old native capital, is centrally situated in the Irawadi valley within reach of ruby mines and oil wells. It has railway connection with Rangoon and with the tin mines on the border of the Chinese State of Yunnan.

Questions and Exercises

1. From the material given on page 64 construct a sketch-map to show the location of the chief races of India.
2. In what ways may the position of the British in India be compared with that of the Romans in Britain in early times? How is it different?
3. Draw a diagram to illustrate the different types of natural and cultivated vegetation at varying heights in the Himalaya.
4. Give an account of the various types of irrigation in use in different parts of India. Why are they necessary?
5. Draw sketch-maps to illustrate the reasons for the growth of Lahore, Madras, Rangoon, Allahabad.
6. Which are the chief food crops and which the chief export crops of India? State briefly the conditions that favour the growth of each.
7. Why does the Ganges Valley receive much heavier rainfall than the Indus Valley?
8. In what respects is Delhi a more suitable capital for India than Calcutta was?
9. Draw a section across the Deccan through Bombay, using the physical map in your atlas.
10. In what way do the interests of India conflict with those of Lancashire?
11. What are the arguments for and against the British remaining in control of India?
12. When is the sun vertically overhead at Calcutta? What is the time in London when it is noon at Delhi?
13. Draw a sketch-map of India showing the chief railway routes.

14. Illustrate the following facts graphically:
Area of India, 1·8 million sq. miles. Population, 353 millions.
British India, 1·3 ,, ,, ,, 290 ,,
What do your diagrams show?

15. The values of Britain's imports from and exports to India in 1931 were as follows:

Imports: Tea, 15; Jute and Jute Goods, 4; Leather, 3; Raw Cotton, 2; Wool, 1. Total, £37 million.

Exports: Cotton Goods, 7; Machinery, 5; Iron and Steel Goods, 3; Railway Rolling Stock, 1; Motor Cars, 1. Total, £32 million.

Comment on these figures.

CHAPTER IX

CEYLON

This island, nearly as large as Scotland, is really just a detached portion of the Deccan of India, to which it is still partly connected by reefs of rock covered with coral, and known as Adam's Bridge. It has broad coastal plains, especially on the north, and in the centre and south rises to a height of more than a mile above sea-level. The many short, swift, and picturesque rivers are of little value for navigation.

As Ceylon lies so near the Equator the climate is always hot except in the hills, which have a pleasant, warm temperature at all times. It receives heavy rainfall from the south-west monsoon from May till September, and the north-east monsoon from November to February. This climate leads to vigorous forest growth, but much of the forest has been cleared for cultivation. Coconut palms everywhere line the shores and are cultivated over large areas. They provide a valuable item of food for the people and also lead to large exports of desiccated coconut, coconut oil, coir, or the fibre of which the thick outer husk of the coconuts is made, and copra or dried kernels, from which coconut oil and cattle cake are prepared.

Tea plantations cover the hill-slopes in the south and west, where the climate is ideal for the crop, and Ceylon is second only to India as a tea-producer. At lower levels there are also valuable rubber plantations. The trees, introduced from the Amazon forests, thrive under the similar climatic conditions of Ceylon, and being carefully tended and tapped by Tamil coolies from Southern India, working under white supervision, are very productive. There are smaller plantations of cocoa and cinnamon, the latter being a small tree, whose bark is used as a spice and for medicinal purposes.

As in all South-east Asia, rice is an important food grain and is grown in large areas of the lowlands, but large quantities have to be imported to feed the plantation-workers and town-dwellers.

Most of the people are thus engaged in agriculture, although in the drier districts considerable areas are given up to pasturing cattle, goats and sheep. In the mountains are many small quarries, from which valuable gem-stones, such as sapphires and rubies, are obtained, and plumbago, the blacklead used in making pencils, is also worked. Some of the people are skilled in making jewellery and artistic ornamental goods, but the only machine factories are those engaged in preparing products for export, e.g. tea, rubber, coconut oil, timber, etc.

The various exports of plantation produce enable Ceylon to import the necessary rice, cotton goods for clothing, coal for the factories and for the ships that call at Colombo, sugar, and manures for the plantations.

Colombo is the only large city and the chief seaport of the country. It grew on a small natural harbour which has been enlarged by the construction of a great breakwater to protect it from the south-west monsoon. Its central position in the Indian Ocean (Fig. 23), where routes from Europe, via Suez, South Africa, Australia and the Far East converge, has added to its importance. Railways radiate from it to the extreme north and south of the island, and to the ancient capital, *Kandy*, beautifully situated among the hills. Many branch lines serve the mines and plantations. Like Hong Kong and Singapore, and for similar reasons, it has a large entrepôt trade, the tonnage of shipping entering and leaving the port being as great as that of London. Its mixed population consists of Sinhalese, descendants of the original Aryo-Dravidian peoples who probably came from India centuries ago, Moors descended from the ancient Arab traders, Tamils—a Dravidian people from Southern India—and European planters, merchants and officials, chiefly British. Buddhist shrines, Mohammedan mosques, Hindu temples and Christian churches minister to the spiritual needs of these different races, and their varied architecture, like the different national costumes of the people, give charm to the city. Its climate is rather hot and enervating for Europeans ; but very beautiful and healthy hill stations are within easy reach.

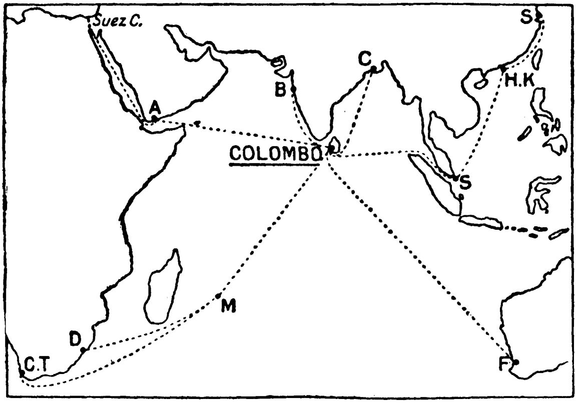


FIG. 23.—The nodal position of Colombo on routes of world importance.

QUESTIONS AND EXERCISES

1. Compare the trade of Colombo with that of Singapore and Hong Kong.
2. Why is the ancient capital of Ceylon among the mountains, while the modern capital is on the coast ?

CHAPTER X

SOUTH-WEST ASIA

This region is sometimes called the "Land of the Five Seas," as it comprises those parts of the continent that lie between the Caspian and Black Seas on the north, the Mediterranean and Red Seas on the west, and the Arabian Sea with the long arm of the Persian Gulf on the south. A region nearly as large as all Europe, it has at present not many more people than the British Isles, but it is one of the most interesting regions in the world. It is believed to be the original home of the "White" or Indo-European Races, from which they have spread to the south-east and the north-west. It contained some of the earliest known civilizations of the world, e.g. the Phœnicians, Babylonians, Assyrians and Persians. From it have spread two of the world's greatest religions, the Christian and the Mohammedan. Its central position in the great land mass of the Old World has made it important in all ages for the routes that pass through it, linking up the civilized peoples of Europe, Asia and Africa. Even to-day the great sea route that links the four hundred million people of Europe with the eight hundred million of South-east Asia goes through this region by way of the Suez Canal and the Red Sea, while the still more modern air route, linking Britain with India, passes over the camel-caravan routes that have crossed it from time immemorial (Fig. 24).

PHYSICAL CONDITIONS

It may be wondered why this region is then so thinly peopled, and this is explained mainly by its physical features and climate. Most of it consists of plateaux sufficiently high to make winter conditions severe, and the whole region receives insufficient rainfall, most of it being desert or very poor pasture land at best. But the coastal strip along the Mediterranean, receiving sufficient rain from the westerly winds in winter, the fertile plain of Mesopotamia, with water for irrigation from the great rivers Tigris and Euphrates, and the oases of Arabia and Persia, have always been very fruitful if properly cultivated. These regions contained the great civilizations of the past and would support large populations to-day under settled conditions. The position of these lands has, however, always made them a source of strife between the stronger peoples around them, and if the settled peoples of the fertile regions have not been strong enough to hold them against the nomads, decay has set in and desert conditions have gradually encroached. Even the intervention of European peoples in recent years does not seem to have brought the peace which this region sorely needs for its useful development.

We will now consider some parts of the region in greater detail.

ASIA MINOR

This comprises the part of the region that is mainly under Turkish control. It is in the main a plateau with higher ridges crossing it from east to west, and bordered by narrow coastal plains on the Mediterranean and Black Seas. The valleys and coast strips produce fine crops of wheat and barley, oranges and lemons, figs and grapes, cotton and tobacco, while the hill-slopes and plateaux pasture herds of sheep and goats. The Angora goat, which produces the fine silken mohair, is a native of this region. The mountains are said to be rich in minerals of various kinds, but they are little worked by the Turks. Very few of the people also engage in manufactures, although some fine carpets are made by hand from the wool and hair of the flocks, and some small factories for making carpets on a larger scale and also for spinning cotton have been established.

Smyrna (or Izmir) is the largest city and chief seaport of this region. It has a fine harbour and exports the fruits, cotton and tobacco grown in its hinterland. Sponge fisheries in the Ægean Sea also add to its importance. It has railway communication with *Scutari*, which lies opposite the old Turkish capital, Constantinople, now known as Istanbul, and with *Ankara*, the small interior market town which is the present capital. It is also the starting-point of the Baghdad Railway, which traverses an east-and-west valley on the plateau, descends to *Adana* in the Mediterranean coast lands through the pass in the Taurus Mountains known as the Cilician Gates, and crosses the Syrian Desert to Mesopotamia.

MESOPOTAMIA

This word means "the land between the rivers," and it is this fertile plain of the Euphrates and Tigris that was the home of the great ancient civilizations of Assyria, centred on Nineveh, and Chaldea centred on Babylon. These were flourishing some twenty centuries before the birth of Christ, and it will be remembered that Abraham, of whom we read in the Old Testament, was an emigrant from the land of the "Chaldees." The settled agriculturists of the plain were in turn overcome by the Persian highlanders from the east, who in their turn fell before the Greeks under Alexander the Great. It is interesting to note that his route into Mesopotamia was practically that followed to-day by the Baghdad Railway. As in Egypt and elsewhere, the Roman power succeeded to the Greek, and in all these times the region remained fairly prosperous. Then came the great Arab

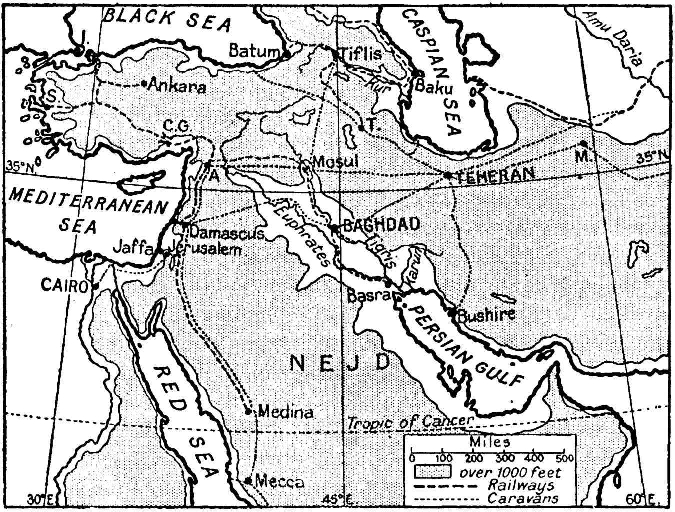


FIG. 24 (*a*).
The Land of the Five Seas, and the ancient and modern routes across it;

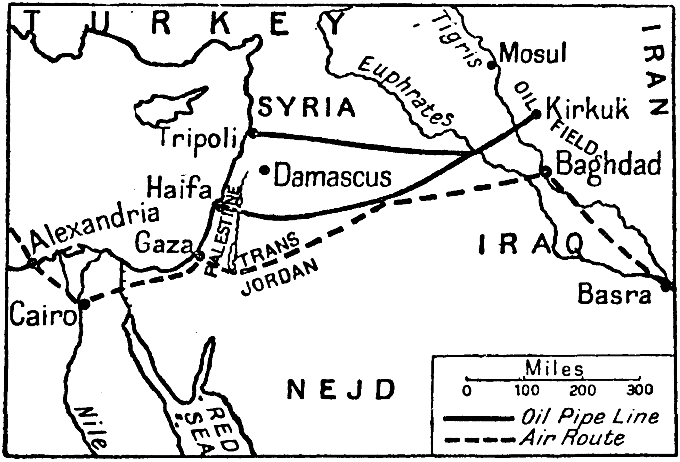


FIG. 24 (*b*).
The new outlet for the Iraq Oilfield.

Mohammedan conquests of the tenth century, and it was under the Arabs that *Baghdad* assumed its great importance. Its central situation in the fertile plain at the point where the two great rivers approached each other so closely that they could easily be connected by canal, and at the extreme limit of navigation for the small sea-going vessels of the Arab traders, made it admirably situated as a centre of government and commerce. Its palaces and gardens were among the wonders of the world in those days, and the still famous stories of the "Arabian Nights" had their origin there. After the Arabs came the Turks from the steppes of Central Asia, a nomadic people who had no knowledge of or care for agriculture, and allowed the irrigation works, upon which the region depended for its life, to decay.

Partly owing to the importance of Mesopotamia as an important link in any possible overland route from Europe to India, partly owing to the great possibilities of the region for the production of cereals, fruits and cotton, and partly owing to the rich wells of petroleum which lie along its eastern border, European peoples became interested in the country in the nineteenth century. Germans commenced the construction of the Baghdad Railway, British people constructed irrigation works on the Tigris and provided capital for the sinking of oil wells. From Kirkuk, the centre of the oilfield of northern Iraq, over a thousand miles of pipes have been laid to the Mediterranean, one line going to Tripoli in Syria, and another to Haifa in Palestine. These pipes are capable of carrying some four million tons of oil annually. They will considerably reduce the cost of transport as compared with the former route which was from the Persian Gulf via the Red Sea and the Suez Canal. After the Great War of 1914–1918 the greater part of the country was formed into the *Kingdom of Iraq* under an Arab king, and the League of Nations gave to Great Britain a mandate to see that the country was properly administered and defended from attack. In 1932 the British mandatory period was terminated and Iraq was admitted a member of the League.

Basra, at the head of the Shat-el-Arab, as the joint outlet of the Euphrates and Tigris to the Persian Gulf is called, is the chief port of Iraq. Its only considerable export is dates, but with improvement of irrigation works other products, especially cotton, should increase. It is also the terminus of the Baghdad Railway.

Mosul in the north is an important market town on the Tigris, at the limit of navigation for small boats and rafts, and at the point at which the Baghdad Railway reaches the river. Camel-caravan routes converge upon it from the Five Seas as they did on ancient Nineveh, whose ruins lie buried in the desert sands near the modern city.

SYRIA

This consists of a strip of the Mediterranean Coast and the portion of the desert which separates it from Mesopotamia. It is a country mainly inhabited by Arab tribes and at present under the control of the French, who administer it under a mandate from the League of Nations. The region has always been important as the caravan route between the civilizations of Mesopotamia and Egypt passed through it, for the desert was there narrower and less difficult to cross than farther south. Tyre and Sidon, the cities of the ancient *Phœnicians*, were on its coast, and benefited from trade passing through them between the Far East and the countries of the Mediterranean.

Damascus has always been an important city and is one of the oldest cities in the world. It stands in a fertile oasis watered by the Abana, which comes from snow-capped Mt. Hermon, and is the first city to be reached by the caravans coming across the desert from Mesopotamia. From this point the routes diverge and modern railways now follow the ancient caravan tracks westward to *Beirut* on the Mediterranean, northward to *Aleppo*, and southward across the plateau to Arabia. It is also a station on the important air route from Cairo to Baghdad.

The coast plain and the oases produce cereals, fruits, cotton, tobacco and mulberry trees, the well-watered slopes of the Lebanon Range have fine forests of cedar trees, and on the poorer pastures of the plateau considerable herds of camels, sheep and goats are reared.

PALESTINE

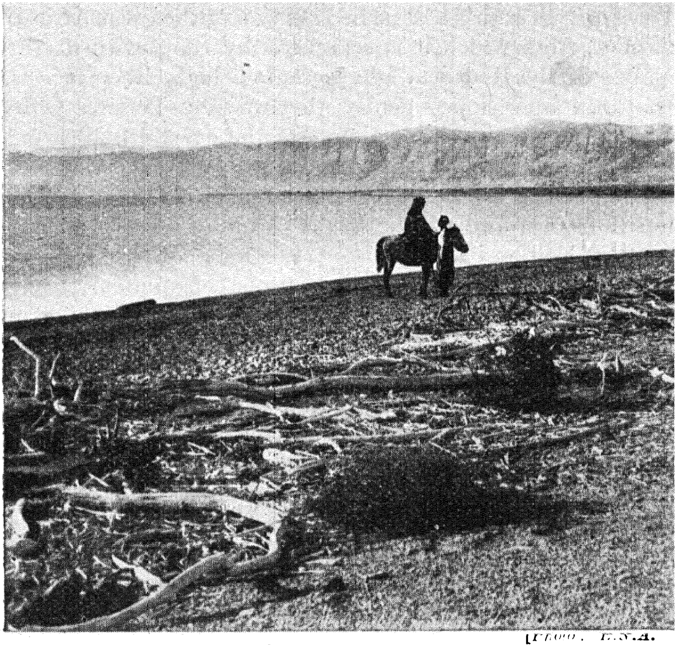
This country, now administered by Great Britain under a mandate from the League of Nations, is of course the Holy Land of Jews and Christians alike. But about five-sixths of its present population are Mohammedan Turks and Arabs. The country consists of:

(1) A fertile coastal plain in which all the typical Mediterranean fruits and cereals are cultivated, especially on the Jewish settlements.

(2) The plateau of Judæa and Samaria, composed of limestone rock, broken up by deep gorges in which streams run after the winter rains: this is mainly a pasture land for sheep and goats.

(3) The great Rift Valley of the River Jordan and the Dead Sea. This last region is really the northward extension of the great Rift Valley of Africa by way of the Red Sea and Gulf of Akaba. The surface of the Dead Sea is actually 1,300 feet below the level of the Mediterranean, and as it has no outlet for its water except by evaporation it is intensely salt. Fish cannot live in it nor vegetation near its coasts, so that its appearance is very desolate. Salt can be collected from its shores in the hot dry summer.

Jerusalem, the ancient Hebrew capital, centrally situated in the hill country of Judæa, is still the largest city, although it has only about 90,000 people, and is the administrative capital of the country. It has a railway to *Jaffa*, the chief seaport, famous for its oranges, and thus connects with the railway which traverses the fruitful coast plain from north to south. It is a city of pilgrimage, not only for Jews and Christians, but also for Mohammedans, and this adds to its importance.



[*Photo*, E.N.A.

THE DEAD SEA.

Notice the absence of living vegetation and the escarpment of the Plateau.

Haifa, on a harbour under the shelter of Mt. Carmel, is the chief port of the north of Palestine. To the east is a break in the plateau which allows the rainy west winds of winter to extend their beneficent influence farther inland over the productive Plain of Esdraelon, and cultivation can be carried on even to the east of the

Jordan Valley. Through this fertile region a railway runs from Haifa to join the route going southward from Damascus into Arabia.

ARABIA

This is a million square miles of desert land with four or five million people, mainly oasis-dwellers or nomads. Physically it is just a detached portion of the great African Sahara, from which it is separated by the drowned Rift Valley of the Red Sea. It presents a high, steep face to that sea and slopes gently towards the Persian Gulf. The only inhabitable portions are the coastal plains and the oases of the Nejd or higher central region, which separates the sandy wastes of the Syrian Desert to the north from those of the Great Arabian Desert on the south. Neither the north-east winds of the winter months, nor the south-west monsoon of summer, bring much rain to Arabia, and temperatures are very high in the summer.

Although the people are mainly nomadic Bedawin Arabs, formerly recognizing tribal chiefs, there has been during the present century a strong movement towards a national life with a central government. After several years of struggle, a single power, that of the Nejd, became supreme over all Arabia but the south coast region where several small states retained their independence, enjoying to a greater or smaller degree the protection of Britain. The rest of the country became united and in 1932 assumed the title of " The Kingdom of Saudi Arabia."

The importance of Arabia is however more of the past than of the present. Following the death of their great prophet Mohammed at Medina, in A.D. 632, the Arabs spread over Northern and Central Africa and into Spain, also across Mesopotamia, Persia and India to the Malay Region, carrying the new religion. The Arabs of those days were also the most famous mathematicians, astronomers, chemists and physicians of their time, and modern science owes much to their labours. They applied their knowledge also to the means of increasing and economizing their scanty supply of water by digging wells, building aqueducts, and laying out irrigation schemes. Southern Spain still benefits from such works made by the Arabs during their occupation. They were also great traders by sea as well as by camel caravan across the deserts. When Vasco da Gama entered the Indian Ocean in 1498 he found all the trade of that region in the hands of the Arabs, but since that time their influence has rapidly declined. Arabia has now little to offer the outside world, and the bulk of the people are very poor. Small quantities of the excellent coffee of the Mocha district in the south-west are still exported, while *Muscat*, in the south-east, exports dates.

Mecca, the birthplace of Mohammed, and therefore the great centre of pilgrimage for all faithful Moslems, is the largest city of Arabia. Caravan routes radiate from it to *Jidda*, its port on the Red Sea, to Damascus, Baghdad, the Persian Gulf, and Yemen in the south. *Medina*, the holy city where Mohammed is buried, is also a centre of pilgrimage, and has a railway northward to Damascus. This railway has little commercial value, but is chiefly used by pilgrims, and enabled the Turks, who built it, to control Arabia until recent years.

Aden is an important British coaling station at the convergence of routes from Suez, Bombay, Colombo and East Africa. It has a fine natural harbour. The town is situated within an old volcanic crater and has a very hot, dry climate. The port collects coffee and gums from Arabia, and hides from Somaliland, to be exchanged for corn, tobacco and cotton goods from India.

THE IRANIAN PLATEAU

This region, which comprises the independent States of Persia, now known as Iran, and Afghanistan, is a high semi-desert plateau, crossed by a number of higher folded ridges, the greatest of which is the Elburz Mountains overlooking the southern shores of the Caspian Sea. The northern slopes of these mountains have a considerable rain and snow fall, especially in the winter months, and are well forested. Over the rest of the country rainfall is scanty, and as the summers are very hot it is only where water can be obtained for irrigation that agriculture can be carried on. A number of rivers flow from the mountains and finally lose themselves in the desert. Along their courses corn, fruits, cotton, tobacco and many flowers flourish, and silkworms are also reared in the villages. The rest of the country has sufficient pasture to feed herds of sheep, goats and camels, which supply the materials from which the famous Persian carpets and rugs are made. Many of the people are nomads, wandering with their flocks to the higher pastures in the summer, and descending to the valleys in winter when the mountains are covered with snow. At the foot of the western mountain edge of the plateau from Bushire northwards to Iraq are valuable oil-wells, and petroleum, worked by the Anglo-Persian Oil Company, is the chief export of the region.

Most of the trade of this region is carried on by camel caravan, and the largest centres of population are really oases in the river valleys at the convergence of such routes.

Teheran, the capital of Iran, has a quarter of a million people. Routes radiate from it (1) to Baghdad, the capital of Iraq ; (2) to *Tabriz*, an important city in the north, linked with the Russian railway system ; (3) to *Meshed*, a famous carpet-making centre ; (4) to *Ispahan*, *Shiraz* and *Bushire*. Along these routes travel cotton, dried fruits, opium and carpets for export, and the cotton goods, sugar and tea which are the principal imports of Persia from Russia, Britain and India. The oil-tankers load up with petroleum at *Ahwaz*, at the limit of navigation on the Karun River, or at Bushire.

Kabul, the capital, is the only large town of Afghanistan. It manufactures silks, carpets and felts, and collects fruits from the surrounding valleys for export by the caravan routes (1) to India via the Khaibar Pass; (2) India via *Kandahar* and the Bolan Pass; (3) to *Herat* and thence into Iran; (4) to the Amu Valley and Bokhara in Russian Turkestan. The chief imports along the Indian routes are cotton goods, indigo, sugar and hardware.

QUESTIONS AND EXERCISES

1. Give an account of the present political divisions of the "Land of the Five Seas."
2. Draw sketch-maps illustrating reasons for the growth and importance of Smyrna, Damascus, Baghdad, Aden, Teheran.
3. Why are the river valleys of Mesopotamia so much more thinly peopled than those of India and China?
4. Mention any incidents of the Bible stories which illustrate the geography of the Holy Land.
5. Draw a section across Palestine illustrating the natural regions indicated on page 92.

CHAPTER XI

RUSSIA

This is a Union of independent Republics which came into being after the great Revolution of 1917 had broken up the old Russian Empire and exterminated its rulers. These Republics are governed by Soviets or Councils elected by workers of all kinds, and they send their representatives to the Union Congress of Soviets meeting in Moscow. This Congress appoints an Executive Committee and a Council of Ministers or Commissars, who have charge of various branches of the activity of the State as a whole, e.g. Foreign Affairs, Health, Transport, Agriculture, Education, etc.

This Russian Union of Socialist Soviet Republics comprises over eight million square miles of territory in Europe and Asia, with a population of some 160 millions, that is to say it can be compared in these two respects very closely with the whole of North America. But over 70 per cent. of the people of Russia live on the European side of the Ural Mountains. This we shall see is mainly due to geographical conditions, but we shall also learn that the Asiatic portions of Russia are capable of much greater development.

PHYSICAL FEATURES AND CLIMATE

About three-quarters of the country consists of a vast plain, of which monotony is the chief feature, whether it be in the great belts of tundra, of forest, or of steppe, which form its chief divisions. Distances are so vast that only a wealthy and well-organized people could ever hope to link the whole land up, and so far the Russians have never been the former at any rate. Even so they have to their credit the longest single railway in the world, the main line of the Trans-Siberian Route (Fig. 25) being almost six thousand miles in length; but the country as a whole is poorly served in the matter of railways. Road-building too is difficult and costly in the plain, where little hard

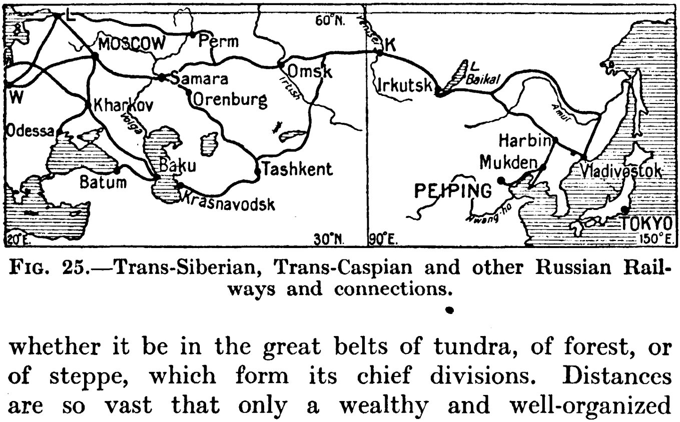
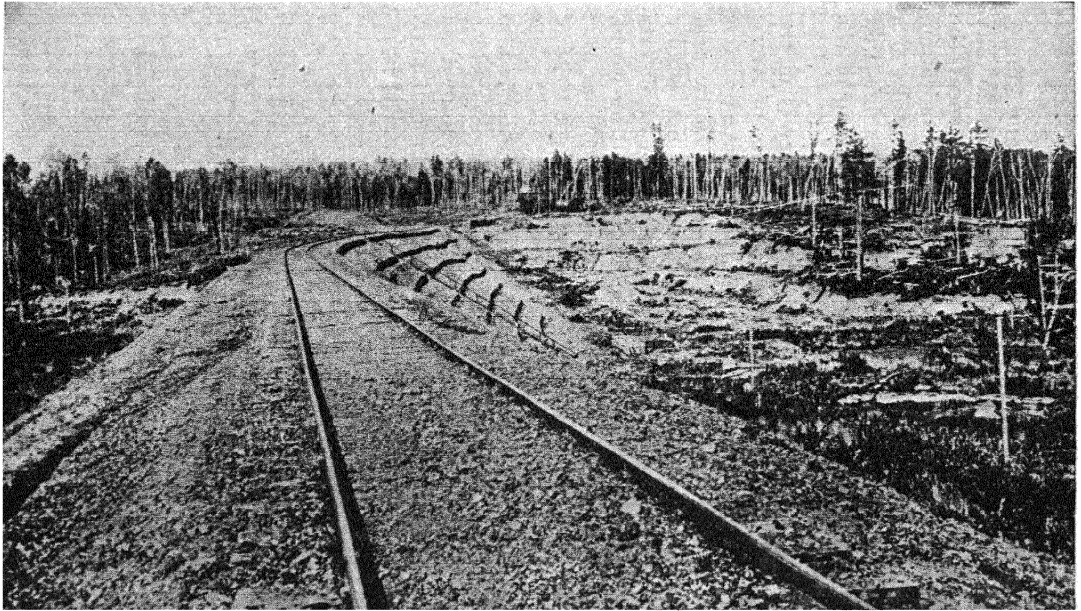


FIG. 25.—Trans-Siberian, Trans-Caspian and other Russian Railways and connections.



[*Photo :* E.N.A.

A Section of the Trans-Siberian Railway.
Note the single track through a partially cleared forest region.

rock is available, so that wheeled traffic of any kind is difficult over the dusty or muddy tracks which do duty for roads in most parts. In these circumstances the rivers are of the utmost importance for communication, and all towns of any size lie on or near the banks of a navigable river. It is significant of Russian life that one of its best-known national songs is the song of the Volga boatmen.

Notice too how badly off this vast country is in the matter of sea coasts. Its thousands of miles of Arctic shore are unapproachable for more than three-quarters of the year, and even its seaports on the Baltic Sea, the Sea of Japan and the Black Sea, are not wholly free from ice at all times. On the south and east, deserts and high mountains isolate Russia from the outside world, so that it is small wonder that its development has been retarded compared with that of some other countries of the modern world.

Over and above its vastness and its isolation is also the factor of unfavourable climatic conditions, which are of course partly due to the former. More than half the country is frozen up for six months or longer. Sledges take the place of carts on the roads and of boats on the rivers, agriculture and sea traffic are at a standstill. At Verkhoyansk, in North-eastern Siberia, temperatures almost a hundred degrees below zero on the Fahrenheit scale have been registered! In the south and centre summers are hot, but in the interior the heat is also accompanied by drought so that vast areas are little better than desert.

The slope of the great plain northwards and these climatic conditions make the huge rivers of Siberia of small value in proportion to their size. They are frozen throughout their length for many months and the thaw sets in near their sources long before the ice has begun to melt lower down, with the result that the country is flooded for many miles on either side of the lower parts of the rivers. What would otherwise be very valuable land is thus rendered into a useless swamp.

The south-western portions of Russia, especially the region of the Ukraine and the Caucasian Republics, have the most congenial climate, and are in consequence the most fruitful and most thickly-peopled parts of the country. As the modes of life in different parts of Russia are closely linked with the prevailing types of vegetation, industrial development being in a comparatively early stage, we will subdivide the country for more detailed study mainly along these lines.

THE TUNDRA

This region, like Northern Canada, is dark and frozen up for half the year, and the lower lands are converted into a swamp when the thaw comes. In the long warm summer days mosses, lichens, and even flowering plants and berry-bearing bushes thrive in the small depth of unfrozen soil that covers the drier parts. Like the Eskimo of North America, the Lapps, Samoyedes and other tribes of the Russian tundra are nomadic. In the summer months they go in search of fish and wild fowl, which they must catch in sufficient quantities to make a store for the winter. But unlike the Eskimo they have in the reindeer a valuable domestic animal which supplies them with milk, flesh, clothing, tent-making material and means of transport. The animal survives the winter by digging beneath the snow for the reindeer moss, but is always on the move, so that there is no winter settlement in ice huts for these tribes. At this season they usually migrate southward towards the edge of the forest, where the men engage in the trapping of fur-bearing animals. This supplies them with skins, which they can barter with Russian traders for blankets, arrow-heads, firearms, knives, tobacco and tea. Sledges drawn by dogs or reindeer are used for transport of materials, while the people are skilled in travelling on ski or snow-shoes.

THE FOREST

The Russian forest is the most extensive tree-covered area in all the world, a belt some six thousand miles from east to west, and six hundred miles from north to south at narrowest. It thins out in the north on account of winter cold and in the south on account of summer drought. This belt, as in North America, is widest in the milder and wetter coastal regions, but especially at the eastern end, where not so much of it has been cleared for cultivation. Vast areas of the forest are still unexplored. In the north the trees are mainly coniferous, but towards the milder south and west deciduous trees make their appearance. As in Canada, the remoter parts of the forest are the homes of many valuable fur-bearing animals, which are hunted and trapped in winter, when their furs are in the best condition as a protection against the intense cold.

Near the rivers, and especially at the junction of streams, parts of the forest have been cleared and settled communities have grown up. The trees provide house-building material, and even the roads are often made by laying down sawn logs. All the scanty furniture, and even plates and dishes, are of wood, while wood fuel, burnt in a huge brick stove, enables the people to withstand the winter cold. The sleeping-place is just a wide shelf above this stove. Even the engines on the Trans-Siberian Railway in those sections that traverse the fringes of the forest use wood fuel.

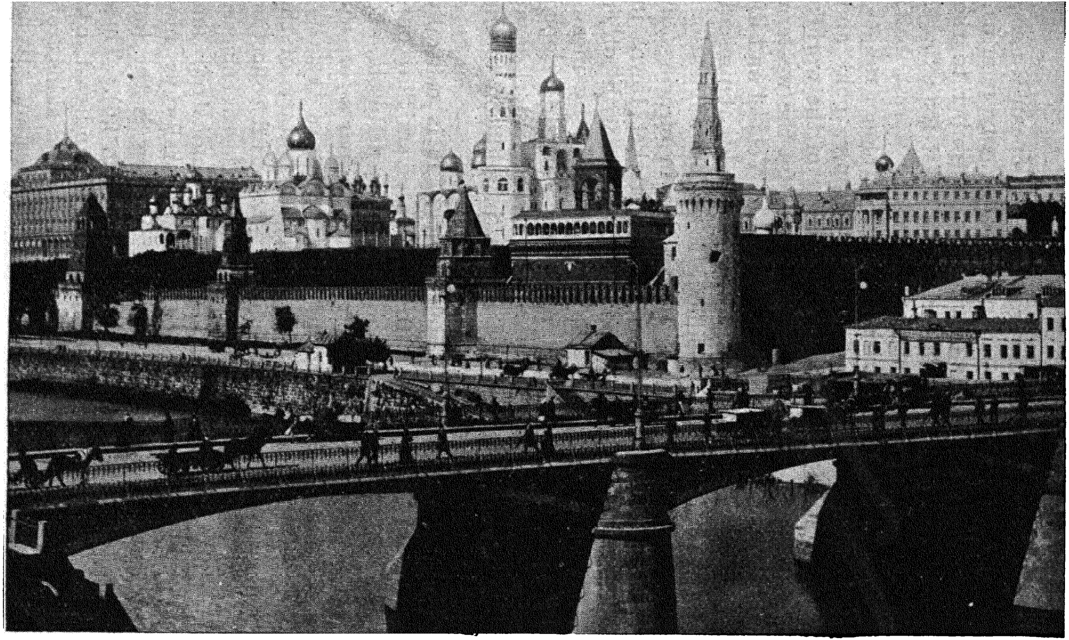
In the forest clearings rye, oats and potatoes are grown for food, while cattle and sheep are also kept. Sheepskin hats and coats are the typical features of the peasant's winter dress, while the more valuable furs of the wild animals make a valuable article of export for the purchase of manufactured goods and foods that the forest does not produce. Flax is also largely grown, some mainly for its fibres, from which linen is made, other for the linseed, from which a valuable oil is obtained.

Where the rivers flow southward, as in European Russia, or to seas which are not frozen for too many months, they are used for floating down rafts of timber to the treeless regions of the south, or to the coast for export.

Many of the mountain ranges in the forest belt, especially the Urals, the Altai and the Yablonoi ranges, are rich in metals, including iron, copper, gold and silver, while the Urals are the chief source of the world's supply of platinum. Coal is also found on the western flanks of the Urals, while along the lower Yenisei and its great Tunguska tributary is a vast coalfield, at present undeveloped, owing to the difficulties of communication.

Most of the big cities of Russia are in clearings in the forest belt, having grown up as market towns in favourable situations for communication with other parts of the country and the outside world by means of the rivers. The largest have generally developed where minerals, especially coal and iron, were close at hand, to give rise to manufacturing, in addition to the other industries of the region.

Moscow, the capital, is such a city. It is centrally situated on the watershed from which rivers flow outward to the far seas that border European Russia, and therefore had communication with all parts of the country. The original site, now the centre of the city, lies on a hill rising from the Moskva tributary of the Oka, and is called the Kremlin, a wonderful collection of cathedrals, palaces, museums and colleges enclosed within a high wall. Outside lie the industrial and residential parts of the city. Modern railways now follow the old waterways, so that Moscow is the hub of the railway system of the country (Fig. 26). These bring to it forest products from the north and east, coal and iron and corn from the south, cattle and skins from the steppes, fruit and cotton from Turkestan. It has therefore developed leather, textile and engineering industries, with the products of which it buys food for



[*Photo:* *E.N.A.*

MOSCOW: THE MOSKVA BRIDGE AND THE KREMLIN.

its rapidly increasing population. While European Russia still contains more than 70 per cent. of the total population of the Union, Moscow is obviously the best possible centre of government. Before the Revolution the political capital of the country had been for two centuries at the estuary of the Neva, on the Gulf of Finland. It was built there on piles at enormous expense by order of the Tsar, Peter the Great, who thought that Russia would be best served by coming into closer contact with Western Europe. The city was called St. Petersburg, later changed to Petrograd, and after the Revolution to *Leningrad* (Lenin's Town) in honour of the chief revolutionary leader. It is still a fairly important seaport for the export of forest produce and the importation of manufactures from Western Europe, and has some manufacturing industries. The recent construction of a canal linking the White Sea and the Gulf of Finland via Lakes Onega and Ladoga should increase the trade of Leningrad, especially its timber exports. It has railway connection with Moscow, with the Ural Mountains, with Warsaw, Berlin and Western Europe, and with the port of *Kola.* This last, although on the shores of the Arctic Ocean, is kept free of ice by the warm North Atlantic Drift.

Archangel is an important timber port at the mouth of the Northern Dwina, on the White Sea, and in the six months when it is free from ice exports large quantities of deal and pine, tar and resin, and furs.

Nijni-Novgorod, now called *Gorky,* after one of Russia's greatest writers, Maxim Gorky, at the junction of the Oka and the Volga, is famous for its great autumn fair. River, road and railway bring merchants from all parts of Russia, and even from Western Europe and China, to sell furs and skins, horses and cattle, hides and carpets, silk and tea, and miscellaneous goods of all kinds.

Perm and *Ekaterinburg,* which has been renamed *Sverdlovsk,* are important mining and railway centres in valleys among the Ural Mountains, the former being especially famous for platinum and the latter for asbestos. Both have coal close at hand.

Irkutsk is the capital of the Far-Eastern Region and is a large modern city. Here the Trans-Siberian Railway meets the Angara River, which drains Lake Baikal to the Yenisei. The railway then proceeds eastward round the steep southern shores of the lake and by difficult tunnels through the forested mountain ridges to the plains of Manchukuo. From Irkutsk also radiate sledge routes to the gold mines of the north-east, and a camel-caravan route across the Gobi Desert to Northern China. *Krasnoiarsk* is another important centre situated where the railway crosses the Yenisei, and with routes to the mining centres of the Altai Mountains to the south.

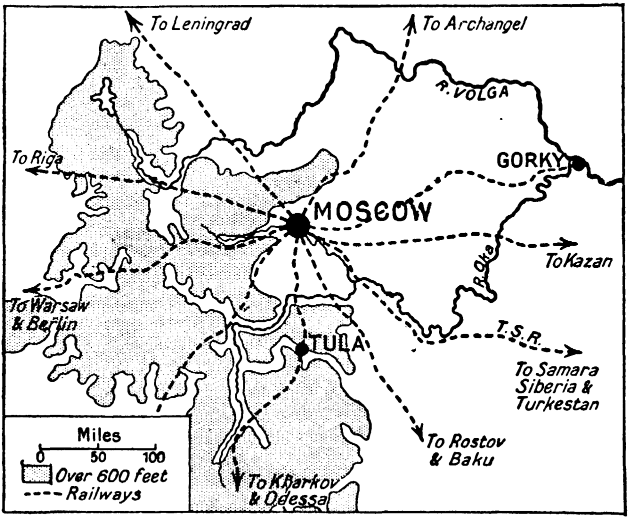


FIG. 26.—Moscow, the heart of Russia.

Vladivostok is the important eastern terminus of the

Trans-Siberian Railway. It has a good harbour, free from ice for about eleven months, and would become very important if Siberia were fully developed. From it Japan can be reached by a two days' voyage, and the railway thus puts that country within a three weeks' journey of Western Europe, as compared with four weeks by the Canadian Pacific and seven weeks by the Suez routes.

THE BLACK EARTH REGION

This region is physically the lower part of the Dnieper Valley and politically the Republic of Ukraine. It is the most fertile and most densely-peopled part of Russia. The Black Soil is partly loess, like the fertile soil of Northern China, and partly alluvial, having been washed southward by the water flowing from the great Ice Sheet, which once covered all Northern and Central Russia. This Ice Sheet, as in North America, denuded the northern areas of soil, which it pushed southward in its advance. The black colour of the soil is probably due to centuries of cultivation, which have left behind vast quantities of humus or decayed vegetable matter.

The hot summers of this region bring to perfection great crops of grain, especially wheat, while in the northern areas barley, oats and rye, and in the southern portions maize are important crops. Continuous cropping of the area and primitive methods of cultivation make the yield of all these small compared with what they might be. With the introduction of more modern methods, such as the English rotation of crops, and the wider use of machinery, this region would become one of the world's great granaries. Sugar beet and tobacco are also extensively grown.

Over and above the great agricultural wealth of this region, there lies in the Donetz Valley the richest and best-worked coal and iron field in Russia, so that big iron and steel industries are springing up there. Coal is also sent to Moscow and other manufacturing cities, and to the Black Sea ports for shipping.

Kiev was in the eleventh and twelfth centuries the capital of Russia. In close contact with the civilization of Byzantium, by way of the Dnieper River, it became the centre of the religious and artistic life of the country, and although it suffered decline with the invasion of nomadic peoples from the steppes, it is still famous for its magnificent churches and monasteries. Apart from these interests it is now a busy commercial centre, being a great wheat market and having flour mills, sugar refineries and tobacco factories. Old roads and modern railways radiate from it to Moscow and Leningrad, to Odessa and the Crimea, and around the great swamps of the Pripet into Poland and Central Europe.

Odessa is the great port of the Black Earth Region. It has a good harbour, and lying between the estuaries of the Dniester and the Dnieper serves both valleys. It is ice-free for the greater part of the year. It has flour mills and sugar refineries and exports their products, as well as the surplus corn from the region, and timber from the forests farther north. It imports petroleum from Batum, manufactured goods from Western Europe and America, and tropical produce, such as tea, coffee and rubber. *Nikolaiev*, at the mouth of the River Bug, and *Kherson*, at the mouth of the Dnieper, have a similar trade.

Kharkov, the capital of the Ukraine, is the chief mining and manufacturing centre of the Donetz coalfield, and *Ekaterinoslav*, or as it is now called *Dniepropetrovsk*, on the Dnieper, has similar industries. In the neighbourhood of this latter town, an enormous hydro-electric scheme has just been completed. The dam across the Dnieper is 120 feet high and raises the river level at this point by a hundred feet. In addition to the power generated, the deeper water has made the river navigable for larger vessels. A series of three locks carries the boats round the dam.

THE STEPPES

These are the treeless grasslands which extend from the River Don and the Sea of Azov into the heart of Siberia. Extremes of summer heat and winter cold, added to a lack of rainfall, make them unsuited to tree growth, but grasses, both wild and cultivated, and many other plants which do not need a whole year to complete their cycle of growth, flourish where soil is suitable and sufficient moisture can be obtained. The steppe is in spring and early summer a vast expanse of green grass spangled with brightly coloured flowers, later in the summer and autumn the whole landscape turns to gold and brown, and in the winter it is a snowy waste.

Most of the people of the steppe are nomads living on the produce of their herds of sheep, goats and camels. Their dwellings consist of light dome-shaped wooden frameworks covered with hides, and can easily be taken down, transported and re-erected as the people follow their flocks to new pastures. Foodstuffs, clothing and luxuries, such as their animals cannot provide them with, are purchased by the sale of surplus hides, and of carpets, rugs and leather goods, which they are skilful in making. The exchange is effected at the few small and widely scattered market towns that have grown up at favoured spots on the rivers. Along the Trans-Siberian Railway more settled farming is practised. Wheat and other cereals are grown in the fertile soil of the northern steppes, and herds of dairy cattle are kept, providing a large surplus of butter for export.

The steppe-dwellers, such as the Khirgiz of the Ural River and the Kalmucks of the lower Volga, are famous for their horsemanship, and although the Cossacks of the Don Valley have become settled farmers, with cornfields, orchards and vineyards, they still retain their old skill as cavalry men, learnt by their ancestors in their wanderings on the steppes.

Astrakhan, at the head of the Volga delta, is the largest town and seaport of the region, and would be still more important had the Caspian Sea access to the open ocean. River and railway connect it with the fertile steppes, the forest and the coalfield, the products of which regions it exports in exchange for petroleum from *Baku*, and cotton, silk, fruits and carpets from Russian Turkestan. The latter region is connected to the Caspian by railway to *Krasnavodsk*. The Astrakhan " fur," which is world-famous, is a preparation of lambswool from the flocks of the steppes, while caviare, another characteristic product, is prepared from the roe of the sturgeon, a large fish caught in the Lower Volga and the Caspian. Isinglass is another product of the sturgeon.

Saratov, where the rail route from Astrakhan to Moscow crosses the Volga, *Samara*, at the junction of the Trans-Caspian and Trans-Siberian Railway, and *Kazan*, also a rail and river junction, are all important market towns of the steppes, the last being an old fortified capital of the Tatars in their struggles with the Slavs of the forest. *Rostov*, near the mouth of the Don, is the chief western outlet of the region. All these towns are rapidly developing manufactures, especially of metal goods.

Orenburg lies where the Trans-Caspian Railway and camel-caravan routes from Turkestan meet the Ural River on the eastern frontier of European Russia, and is an important centre for the exchange of the products of these different regions.

Omsk, where the Trans-Siberian Railway crosses the Irtish tributary of the Ob, is the largest town of Western Siberia, and an important market town for corn and butter from the fertile farmlands which lie along this portion of the railway. It also has a trade in furs from the forest, hides from the southern steppes, and tea and silk from China.

Russian Turkestan

This region lies to the south of the steppes and is practically a desert except in the valleys of the Syr Daria and Amu Daria. These rivers bring water from the melting snows and glaciers of the High Pamir and Thian Shan Mountains to fertilize the valleys through which they flow on their way to the salt Aral Sea. The winter climate is severe and rainfall very scanty, but the hot summers bring to perfection large crops of corn and fruit in the irrigated valleys, while cotton and mulberry trees are also cultivated. Outside these " oasis " areas the region is mainly desert, or at best a very poor steppe land, so that till the Trans-Caspian Railway was built by the Russians camel caravans were the only means of transport, and they are still important.

From the many ruined cities lying totally or half buried in the sand in this region, it is believed that the rainfall has diminished in modern times. But many of the famous cities visited by Marco Polo in his famous overland journey to China in the thirteenth century are still flourishing. Such are *Samarkand*, the old capital of Tamerlane, the great Mongol leader who invaded India and established the Mogul Empire there in the fourteenth century, *Bokhara*, *Tashkent* and *Merv*. From these centres, with their picturesque bazaars and mosques, camel caravans still set out to Iran, Afghanistan, India, and China, but the trade with European Russia is now mainly carried by the Trans-Caspian Railway, which links them up with the Russian railway system at Orenburg and the Caspian Sea at Krasnavodsk. Turkestan is also linked with Siberia by the " Turk-Sib " route opened in 1930 (see Fig. 25).

The Caucasus Region

The Caucasus is a magnificent snow-capped mountain range, with its lower slopes richly forested. It stretches unbroken for more than six hundred miles, its highest peaks surpassing those of the Alps. The mountains also contain valuable stores of copper, iron and manganese, but they have not yet been developed. In the plains around the eastern end of the range however lie the richest oilfields in Eurasia. The district around *Baku* on the Caspian reeks of petroleum, while the derricks erected over the wells are the most conspicuous feature of the landscape. Tank steamers convey crude and refined oil to Astrakhan and other Caspian ports, and most of the ships on that sea and the River Volga burn oil fuel. A pipe line also runs overland from Baku to *Batum*, the great oil port on the Black Sea from which the surplus oil is exported to Western Europe.

The valleys, especially those on the south side of the Caucasus which shelters them from the cold winds of winter, are very fertile and produce good crops of cereals and fruits.

Tiflis, the capital of the Republic of Georgia, is the largest city of the region. It is situated in the fertile valley of the Kur at the southern end of the Dariel Gorge, the only pass in the Caucasus. A railway connects it with Batum and Baku, and via the latter with European Russia, as the high and difficult Dariel Pass has not yet been traversed by the iron road. Tiflis is a meeting-place of East and West; in its streets may be seen side by side western shops and oriental bazaars, while all the languages of the many different Russian peoples may there be heard.

The Development of Russia

Nine-tenths of the people of Russia are poor Slavonic peasants living in scattered villages in the forest clearings, or on the more open lands of the Black Earth Region and the Steppe. Their conditions of life are much the same as those of their forefathers for many centuries past. Great distances and the severity of the winter climate have kept these communities isolated so that little progress has been made. Very few can read or write, but there is in Russia a rich store of legends and folk songs. Many of these, as of other Russian stories, tend to be gloomy in outlook, reflecting the hardships and uncertainty of the peasants' life.

From time to time in the course of history the village communities have had to band together to resist invasion from the lands around the Baltic Sea or from the steppes of Asia, and in this way famous leaders have arisen. These carried the stern discipline of war into times of peace and often became tyrannical; and from the time of Peter the Great, in the seventeenth century, Russia continued to spread outward from Moscow towards the sea in every direction. Diminishing rainfall and pestilence had reduced the strength of the once dreaded Tatars of the steppes, and the Russian Cossacks of the Don swept across Siberia, conquering it for the Tsars whom they served. The Cossacks were followed by fur-traders and settlers.

The religious ideas of the Slav peoples of Russia were mainly derived from the Eastern branch of the Christian Church, which was centred at Constantinople until the capture of that city by the Turks in the fifteenth century. Thus, although the bulk of the peasants are devout Christians, the ritual of their churches differs from that of the Roman and other western branches of the Church. In Turkestan and the adjoining regions the people are mainly Mohammedans, having been influenced by the Arab invasions of the tenth century. Religious observances are however discouraged by the present rulers of Russia.

In the middle of the nineteenth century, following the example of Western Europe, the ruling classes of Russia began to develop the mineral resources of the Urals, the Caucasus and the Altai Mountains, and to commence the development of a system of railways. This was of the utmost importance if such a vast area were to be linked together under one control; and besides the construction of a regular network of lines in European Russia long lines were pushed into the remotest parts of Siberia and Turkestan, as we have seen.

Even so millions of Russian peasants have never yet seen a railway train, and the village communities continued to carry on their simple lives, clearing the forest, tilling the fields and keeping their cattle. These communities had many things in common, including much of the land which was re-divided among the families every few years; a system which, however, had the disadvantage that the holders, being uncertain as to the tenure of their land, seldom developed it to the full. The autocratic Central Government, whether centred at Moscow, or later at St. Petersburg, did nothing for the peasants except to call upon them for men for the army and taxes for their schemes of Imperial development. No money was spent upon the education of the masses, who therefore remained illiterate. In great contrast the ruling classes of the few big cities lived lives of luxury and splendour, with all the advantages of western civilization.

But with the coming of the railways and development of mineral resources, some of the more favourably situated towns began to develop manufacturing industries. These were at first carried on by workers from the villages who came to the towns in the winter months, when country life was at a standstill, and returned to their farms in the spring and summer. Later on industrial centres grew up, in which the workers ceased to have any connection with the outside country. The poverty and ignorance of the peasants was exploited by the manufacturers, and the conditions of the town workers of the crowded slums were appalling. Applying the ideas of the village communities, they banded themselves together with a view to improving their conditions, but these workers' associations were not favoured by the government, which often suppressed them and treated their leaders with great cruelty.

This naturally led to serious unrest, which was increased by the wasting of millions of lives in the unsuccessful wars with Japan, and later with Germany in the Great War of 1914–18, for which the masses of Russia could see no reason. Soldiers and sailors threw in their lot with factory workers and peasants, there was a Revolution with much bloodshed, and the present group of Republics was established. The war and the Revolution were followed by two years of famine in the wheat lands of the Volga Region, bringing disease and death on a large scale.

All these disasters left the country on the verge of ruin, but she is now steadily recovering.

In 1928 the first of the Soviet "Five Year Plans" was launched. The object of this plan was to develop the industrial and agricultural activities of the Union to such an extent that Russia might become the most powerful state industrially, economically and politically. Primitive agricultural implements were replaced by modern machinery, railways and steamers were constructed to improve transport facilities, hydro-electric power was developed, while at least some of the raw materials with which Russia is well supplied were exploited much more fully than previously. Among these might be mentioned *iron* at Magnitogorsk in the Urals, *manganese* at Chiaturi, *asbestos* at Azbest, and *petroleum* at Baku. So successful were these efforts that it was declared that the plan was completed in 1932, one year ahead of schedule time, and a second and more ambitious Five Year Plan was begun the next year. It is, of course, too early to say what permanent results these plans will have, but already there are definite indications of a marked development along the lines intended. The whole system of this development is to be on a collective basis in place of the old individual one, the " building of a classless socialist society " being one of the avowed objects of the Plan. To prepare the people for these developments a vast scheme of education from nursery schools to the university has been established.

QUESTIONS AND EXERCISES

1. Compare the Trans-Siberian Railway with the C.P.R.
2. What are the advantages and disadvantages of Russia as compared with the British Empire ?
3. To what extent can a forest community in Russia be self-supporting ?
4. Draw sketch-maps to illustrate the reasons for the growth of Odessa, Omsk, Irkutsk, Vladivostok, Tashkent, Tiflis.
5. Contrast the life of the steppe-dwellers with that of the forest-dwellers.
6. How does the Black Soil of the Deccan differ from the Black Earth of the Ukraine, in origin and in the uses to which it is put ?
7. Why is the outlook of the Russian people very different from that of most British people ?
8. Describe a journey across Russia from Archangel to Baku, with special reference to the scenery of the regions traversed.
9. If there were no political hindrances to trade between Britain and Russia, in what directions would you expect it to develop ?

CHAPTER XII

EASTERN BALTIC STATES

Finland, Estonia, Latvia and Lithuania have become independent Republics since the Great European War and the Russian Revolution. Before that time they had been for many years subject to Russian rule although their peoples were different in race and religion from those of Russia.

FINLAND (OR SUOMI)

Although this country is larger than the British Isles it does not support so many people as either Scotland or Ireland. Physically it resembles North-Eastern Canada in being a low plateau of old hard rocks which have been planed down by the movements of the great Ice Sheet in prehistoric times. Large areas are scraped bare of soil or retain just sufficient to allow of the growth of hardy coniferous trees; while fresh-water lakes, filling the rock basins that have been excavated in the plateau, cover a tenth of the whole country (Fig. 27). Many of these lakes are very picturesque in their setting of dark pine trees, and as they are linked up by rivers and canals they form a valuable means of communication. They are also reservoirs for water-power systems which are of great importance to Finland, which has no coal.

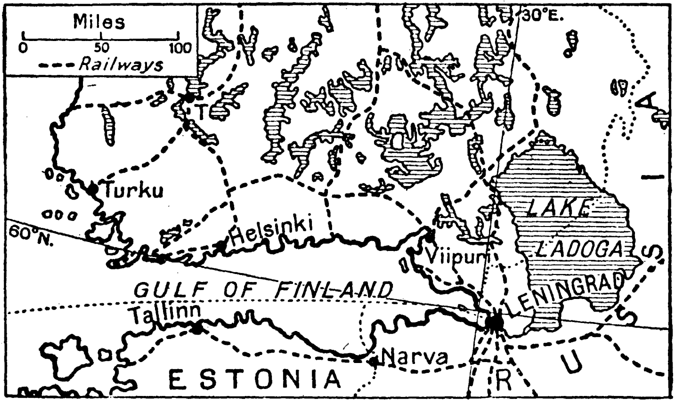


FIG. 27.—The lakeland of Southern Finland.

The forests, which cover more than half the total area of the country, are Finland's greatest source of wealth. They provide its chief building material, fuel for the long, cold winter, the raw material for its timber, wood-pulp and paper mills, and also its chief exports. In the clearings, especially in the south-west where the land is lower, the soil deeper and more fertile, and the summer warmer and longer, cultivation is carefully carried on and good crops of oats, potatoes, rye and barley are grown. Cattle are also kept and a scientific co-operative system of dairy farming allows of the export of a surplus of butter. In the summer time the Baltic Sea and the lakes provide good supplies of fish. Hemp and flax are cultivated in the south, but cotton and wool have to be imported to supply the textile factories which are worked by the abundant water-power.

[Photo: E.N.A.

A TYPICAL PIECE OF THE FORESTED LAKELAND SCENERY OF FINLAND

Most of the towns of any size are naturally in the south of the country. They are linked up by roads and railways, and the latter also connect with those of Russia to the east and Sweden to the west. In the summer a considerable trade is carried on by coasting vessels.

Helsinki, formerly Helsingfors, a city of over 240,000 people, is the largest town and seaport and is the capital of the country. It has a fine harbour, but is closed for about three months each winter by ice. It exports timber, wood-pulp, paper, and butter chiefly to Britain, and imports corn and meat from America, textile goods and machinery from Britain and Germany. *Turku* (or *Abo*) has local supplies of iron ore and has established a shipbuilding industry. It also makes up imported cotton and tobacco. *Tampere* (or *Tammerfors*) has timber, pulp and paper mills, and also a textile industry, all served by water-power. *Viipuri* (or *Viborg*), with a good harbour and easy access to the picturesque and forested lakeland, has become a great timber port and tourist centre.

The people of Finland are descended partly from the tall, fair, northern European race such as is found in Scandinavia, and the Finns, a shorter yellowish Asiatic people who probably entered the country by way of the northern Tundra. The language is mainly derived from the latter, and the religion, a Protestant form of Christianity, from the former. The people are very industrious and well educated; and freed from Russian oppression will probably develop their country to its fullest extent. In the extreme north of the country live the Lapps, a semi-nomadic people depending upon the reindeer to eke out an existence from the inhospitable Tundra.

ESTONIA

This Republic occupies the south side of the Gulf of Finland west of the River Narva and Lake Peipus. It is a cleared forest land which has been developed for agriculture and dairy farming, and is now worked by the people in a number of small holdings. The chief crop is potatoes, which supply the people with food and a considerable surplus for export. Flax is grown in the south of the country, where there is also still enough of the forest left to provide timber for fuel and building purposes.

The Ests are a people allied to the Finns in race, language and religion, but they had been much oppressed by both Germans and Russians. *Tallinn* (or *Revel*) is the largest town and capital of Estonia. The Russians had developed its good harbour, which is free from ice for a longer period than Leningrad, and it is now the chief seaport of the country, exporting timber, potatoes, flax and linseed. *Narva* is another seaport, and it also uses the falls of the Narva River to supply power to its textile mills. *Tartu* (or *Dorpat*) is the largest market town of the interior and it also has a small university.

LATVIA

This is the country of the Letts, who are of European race but speak a language similar to that of the East and Finns, like whom they are also Protestant in religion. The country has still fine forests and, as in the adjoining parts of Russia, there are agricultural villages in the clearings cultivating rye, oats and potatoes for food and flax for export.

Riga, a city of over half a million people, is the capital of Latvia, but it grew to its present size as the great timber port of Russia. It lies at the mouth of the Duna which gives access to the forests of Central Russia, and is also connected by canal to the Dnieper. Riga was thus also a port for the export of grain from the Black Earth Region. Its railway connection to Petrograd and Moscow gave it importance, as raw materials for the manufacturing industries of these cities were often landed at Riga. It is doubtful whether as the port of the small country of Latvia alone it will retain its old importance unless facilities are offered for Russian trade still to pass through it. *Ventspils* (or *Windau*) and *Libau* are other timber ports with rail connection to the interior, but although they are free from ice longer than Riga their trade is not nearly so great.

LITHUANIA

This country occupies the middle and lower portions of the valley of the River Niemen and is mainly agricultural, less than a quarter of the total area being now forested. Flax and linseed are the chief exports, but large numbers of poultry are kept and Lithuania is a considerable exporter of eggs. Sheep and goats, cattle and pigs are also reared.

The Lithuanians are an old European race with a distinct language derived from ancient Sanskrit. In religion they are mainly Roman Catholics. From the thirteenth to the eighteenth century their country was a powerful State, but it later came under the control of Prussia and Russia. In the war between these two powers in 1914–17 Lithuania suffered terribly and is only slowly recovering. The old Lithuanian capital Vilna was acquired by Poland, and *Kaunas* (or *Kovno*), a small town on the Niemen, is at present the capital of the country. *Memel*, previously a German port, is now the port of Lithuania. It has a fine natural harbour in the Kurische Haff and exports the flax, linseed, timber and dairy produce of the country in exchange for coal and manufactured goods mainly from Germany and Britain. The chief traders of the country are Polish Jews.

QUESTIONS AND EXERCISES

1. Draw a sketch-map to show the relative position of Estonia, Latvia and Lithuania, marking the principal rivers, railways and towns.

2. Great Britain is the largest customer of Finland, and the second largest source of Finland's imports. What do you think is the nature of the trade between the two countries? Why?

3. Describe the route from Hull to Helsinki.

4. What is the latitude of Helsinki ? At what angle will the sun be above the horizon there at noon (*a*) on midwinter day, (*b*) on midsummer day ?

CHAPTER XIII

POLAND

This is a State which became an independent Republic after the Great European War of 1914–18, which freed it from the political control of Germany, Austria and Russia who had shared it for the previous century. The Poles are a Slavonic people like the Russians, but they have their own language and literature, and most of them are Roman Catholics. There are, however, large numbers of Jews, especially in the towns. Poland is rather larger than the British Isles and contains about as many people as England.

Physically the country consists practically of the basin of the Vistula which flows from the Carpathian Mountains on the southern boundary to the Baltic Sea in the north, but the country can be easily divided into three parallel belts of country each with distinctive features. In the south lies a belt of uplands at the foot of the Carpathians, in the north lies a belt of undulating lake-studded country known as the Baltic Heights, and between them lies the portion of the European Plain which is the most important part of Poland. Temperatures are rather extreme in Poland. The rivers are usually frozen for three months in winter, while the summers are warm enough to ripen maize. The rainfall is moderate and comes chiefly in the warmer months, while there is usually a fair amount of snow in winter.

THE SOUTHERN UPLANDS

These consist of fairly old hard rocks which are rich in minerals, especially between the upper courses of the Oder and Vistula rivers, where there are valuable mines of coal, iron, zinc, lead and manganese. This has therefore become a busy industrial region engaged in mining and smelting industries which were developed by the Germans. Farther east, to the south of Cracow are valuable salt mines, which provide the raw material of chemical and glass manufactures. Still farther east, near the source of the Dniester, are rich wells of petroleum.

This upland region is well forested and provides timber for the mines, for building purposes, and for export. Trees are felled in the winter, dragged over the frozen ground to the rivers, built into rafts and floated downstream in the summer months. *Cracow* is the largest town of this region and was once the capital of Poland. It grew up at the point at which the Vistula first becomes navigable. It now has important metal and chemical industries and is a railway junction for the line which follows the curve of the Carpathians and those which run northward across the plain into Russia and Germany. *Kattowitz* is the centre of the rich mining district of Silesia, and *Lemberg* (or Lwow) is an important industrial centre and railway junction in the south-east.

THE CENTRAL PLAIN

The southern portions of this are covered with deciduous forests of oak, elm and beech, but there are considerable clearings for pasture and agriculture; while farther north the whole plain is open and given up to farming. This region produces good crops of potatoes, rye, oats and sugar beet, but wheat is only grown in the more favoured areas of the Warthe Valley, where climate and soil are both better. Large numbers of cattle, pigs, horses and sheep are reared. There is plenty of clay from which bricks for building can be made, and some also is suitable for pottery.

Most of the people live in small houses grouped in small villages, and there are few market towns of any size. Floods are very common in the spring when the thaw sets in in the south, while the lower courses of the rivers are still frozen, so that the towns are situated where high ground lies near the rivers.

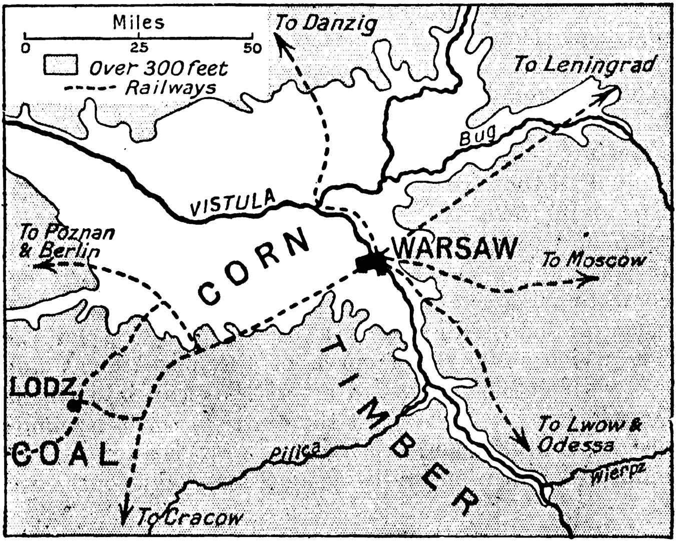


FIG. 28.—Factors in the growth of Warsaw.

Warsaw, the capital, is a city of over a million people. Situated on high ground above the Vistula where the river becomes navigable for steamers, and between the confluences of its two largest tributaries, it has always been a meeting-place of roads following the valleys, while modern railways have increased its importance (Fig. 28). Notice the important routes converging on the city from Berlin, Danzig, Leningrad, Moscow, Odessa and Cracow. These routes bring in raw materials for its many industries, which include the making of leather, hardware, textiles and railway supplies, the refining of sugar and the distillation of alcohol from potatoes. The lines of communication also make it the political and commercial capital of the country.

Lodz is a city with important textile industries mainly controlled and worked by Jews. It has local supplies of coal, wool and flax, while cotton is imported. *Poznan* (or Posen), where the route from Warsaw to Berlin crosses the Warthe River, whose valley is the most fertile portion of the plain, is an important city. It has many distilleries, and also hardware and textile industries.

The Baltic Heights

These are really the great moraines formed at the foot of the Ice Sheet which covered Northern Europe in prehistoric times. Many small valleys, dammed up by the morainic material, are now filled with water forming innumerable lakes. Most of the hills are forested with coniferous trees, and the valleys are cultivated for rye, oats and sugar beet. In the valley where the Vistula cuts through this region the fertile alluvial soil brought down by the river allows of the cultivation of barley and wheat. All the villages in this region are small.

Gdynia, a purely artificial port to the west of the delta, has been recently developed in order to give an all-Polish outlet, thus avoiding the necessity of passing through Danzig.

The Free City of Danzig

This is the delta of the Vistula, and although mainly inhabited by Germans was placed under the control of the League of Nations after the Great European War in order that Poland might have an outlet to the sea for her commerce free from the interference of a foreign power. Since this cuts off the German province of East Prussia from the rest of Germany, mutual agreements for the use of the railways of this area have been made between the two countries. The area consists of fertile farm lands, but most of the people live in the city of *Danzig*, whose harbour had been much improved by the Germans by the building of a breakwater and deepening the river channel. Danzig exports timber, beet-sugar and petroleum, and imports coal, foodstuffs, cotton and manufactured goods.

QUESTIONS AND EXERCISES

1. Describe a journey down the Vistula from source to mouth with reference to the scenery and occupations of the people in the regions traversed and the trade on the river.
2. Draw sketch-maps to indicate reasons for the importance of Cracow and Danzig.
3. What countries border Poland? How do the Poles differ in race and religion from the peoples of each of them?
4. Why is Poland not a great commercial country?

CHAPTER XIV

SOME CENTRAL EUROPEAN STATES

Along the course of the great River Danube lie a number of States inhabited by people differing greatly in race, language and religion, and between whom in the course of history there has been much strife. The borders of these States were last rearranged after the Great European War of 1914–18 in which all of them were involved on one side or the other. An effort has been made to fix the frontiers so that the majority of the people in any one State are of the same race, speech and religion. In all of them agricultural, pastoral and forest industries are most important, but development has been hindered by the unsettled political conditions.

PEOPLES AND HISTORY

The region appears to have been originally peopled by what are known as Slavonic peoples, akin to the Russians and the Poles. These Slavs are sometimes regarded as a branch of the Alpine Race whose original home seems to have been the highland regions of Central Europe. They are round-headed, with dark hair and eyes. They learned to tame the wild horses and cattle of their native homelands and also to work iron from the mountains. With these resources they managed to spread into the neighbouring plains of Russia, clearing the forests and becoming settled agriculturists.

In the first century after Christ the Roman Empire spread northward to the Danube and across the lower course of the river into the country now known as Romania. That country still speaks a language derived from Latin, which was, of course, the speech of the Romans, but the rest of the region, although politically under Roman control, retained its Slavonic languages. In the fifth century Germanic people from Northern and Western Europe came southward, crossed the Danube, and broke up the Roman Empire. Austria is still a country of German-speaking people. Although the political power of the Romans declined, the power of the Christian religion which it had adopted continued to spread from the western centre of Rome and the eastern centre of Constantinople. Thus the German peoples and the Slavs of the more westerly parts of the region, e.g. the Czechs, became Roman Catholics, while those of the lower Danube adopted the ritual of the Eastern Orthodox Church introduced from Constantinople.

After the decline of the power of Rome yellow peoples from the steppes of Asia began to press forward into

Europe, pushing many of the Slav peoples back into the Balkan Peninsula, e.g. the Serbs, Croats and Slovenes. The Bulgars, who invaded the plains on the right bank of the lower Danube, were one of these Asiatic peoples, but in the course of history they have adopted the language and religion of the conquered Slavs. Another of the Asiatic peoples were the Magyars, a race of nomadic herdsmen who advanced up the Danube Valley in the ninth century. They found a congenial home in the treeless plains of Hungary from which they drove the Latin-speaking Romanians into the forested highlands of Transylvania. The Magyars in their turn also adopted the Christian religion, becoming Roman Catholics.

In the fifteenth century the Turks, another Asiatic people, crossed the Bosporus from Asia Minor, captured Constantinople in 1453, and overran the Balkan Peninsula and the plains of the lower Danube. The Turks, having adopted Mohammedanism from the Arabs, introduced that religion into their conquered lands. The Christian Austrians, Slavs and Magyars joined together to resist the advance of the Turk into Central Europe and finally won a great victory at Vienna, after which the Turks retired beyond the Iron Gate of the Danube. Fear of a common enemy brought about the Empire of Austria-Hungary, a political union of Germans, Magyars and Slavs under a German rule, but with the defeat of the Germans and the Turks in 1918 this rather artificial combination broke up. The Turks had previously lost control of Romania and most of the Balkan Peninsula.

Thus at present we find in this region the following States (see Fig 29):

1. *Austria*, a country of mainly German-speaking and Roman Catholic peoples.
2. *Czecho-Slovakia*, where most of the peoples are Slavs and Roman Catholics.

3. *Hungary,* inhabited by Magyar-speaking Roman Catholics.

4. *Yugo-Slavia,* the land of the "South Slavs," or the Serbs, Croats and Slovenes. These people speak different Slavonic languages, and, while most are Christians of the Eastern Church, there are many Roman Catholics and Mohammedans in parts that were formerly under Austrian and Turkish influence respectively.

5. *Romania,* inhabited by a people of mainly Slavonic race, with a speech derived from Latin, and professing the Eastern Orthodox Christian religion.

6. *Bulgaria,* a country whose people are of mixed Slavonic and Mongol stocks, speaking a Slavonic language and professing Christianity.

The River Danube forms the great link between these people, and, since the Great War, has been internationalized so that the trade of all can pass along it without political restrictions.

ROMANIA

This kingdom has now an area almost as large as that of the British Isles, but its population is only about a third as great. It may be conveniently divided for study into the mountainous region of Transylvania and the plains of Wallachia and Bessarabia, lying between the lower Danube and the Dniester.

Transylvania is a plateau of old hard rocks bordered by the newer folded mountain ranges of the Carpathians and Transylvanian Alps. The old rocks are rich in minerals, including gold, silver, mercury and copper; while on the outer flanks of the Carpathians and Transylvanian Alps are valuable salt-mines and oil-wells. Most of the region is well forested with beech and oak, while there are pine forests on the higher ridges. This enables it to supply timber to the treeless plains of Romania and Hungary. The Maros and its tributaries form the chief highways of the region; and their valleys have been cleared to provide pasture, and for the cultivation of cereals, vines and tobacco. There are no large towns in this region of Romania, even the market towns and mining centres being quite small.

The plains of Wallachia and Bessarabia are the most thickly-peopled part of the country, although most of the people are engaged in some form of farming. Large crops of wheat and maize are grown, the former providing a valuable surplus for export, while the latter is mainly used to feed horses, cattle and pigs. From the gorge known as the Iron Gate, where the Danube has carved its way between the Transylvanian Alps and the Balkans, the river is navigable to the Black Sea and forms an important highway of trade. The rocky channel at the Iron Gate has been deepened by blasting, while the Sulina distributary through the

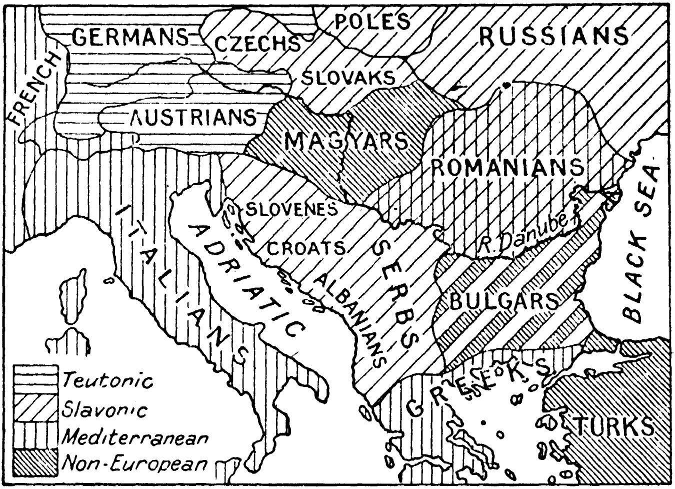


FIG. 29.—The Race Mixtures of Central and South-Eastern Europe. —Note that only the largest element in the population of each region is shown.

delta has been deepened by dredging and by the confining of the channel between concrete walls in order to increase the scouring action of the river. Unfortunately the left bank of the river is low and very liable to flooding, and the people have not yet been able to afford the engineering works that would prevent this and turn the marshes into valuable agricultural land. The several left-bank tributaries of the Danube, notably the Sereth and Pruth, are valuable highways in the plains, and railways are being developed to deal with the considerable trade in grain, cattle and oil.

Bukarest is the largest town and capital of Romania, being centrally situated on the fertile Wallachian plain. It is also the chief railway centre of the country with lines radiating to the Iron Gate and thence to Central Europe, to the oil-wells of *Ploesti* and the mining centres of Transylvania, to the fertile farms, rich oil-wells and salt-mines along the Sereth Valley, to the great river ports of *Galatz* and *Braila*, and across the Danube by the great iron bridge at *Chernavoda* to the Black Sea port of *Kustendji*.

Sulina is the great grain port of Romania and of the Danube generally. The great river barges here unload into elevators, where the grain is graded and stored previous to being exported to Western Europe via the Black Sea and Mediterranean.

Jassy, centrally situated in the Pruth Valley and with rail connection to the Sereth and the Dniester, is the largest market town of the plains of Bessarabia.

CZECHO-SLOVAKIA

This new Republic consists of the old Austrian provinces of Bohemia and Moravia, which were inhabited by some ten million Czechs, and the old Hungarian province of Slovakia, the home of three million Slovaks. These, like the Czechs, were Slav peoples, whose interests had been neglected by the ruling Germans and

Magyars of the dual monarchy of Austria-Hungary, and who were able to sever their connection with them after the Great War. The new country is about as large as England and Wales.

The Bohemian Plateau is the most valuable portion of Czecho-Slovakia, for although most of it is more than a thousand feet above sea-level, the valleys of the rivers that cross it are very fertile and produce good cereals, root crops, sugar-beet, hops and fruit such as grow in Britain. The higher ridges that border the plateau are well forested and the old rocks of which they are composed are rich in coal, iron, kaolin and other minerals. The Moldau and the Upper Elbe provide a navigable water-way from Budweiss to the picturesque gorge through the Erz Gebirge on the German frontier, and the valley is followed by road and railway.

Praha (or Prague), in the centre of the plateau, is a fine city and capital of the country. It lies on the Moldau at the confluence of the Beraun which comes from the rich mining district at the foot of the Bohmer Wald. It is the railway centre of the country and has important manufacturing industries, especially of machinery, textiles and beet-sugar.

Pilsen uses locally grown barley and hops in its famous breweries, and local coal and quartz sand in its glass works.

Karlsbad, at the foot of the Erz Gebirge (Ore Mountains), is a spa famous for its mineral springs and also makes porcelain, using local supplies of kaolin and coal.

The valleys of the Danube and its tributary the March are very fertile and the mountains provide sheep pastures and timber, so that Moravia is a very productive region of the country. The Moravian Gate, as the valleys of the March and Upper Oder between the Bohemian Plateau and the Carpathians are sometimes called, has always been an important highway between Northern and Central Europe, and has been the scene of many historic battles.

Brno (or Brunn) grew up around the fortress built to command this route. It is also an important market town and has a considerable woollen industry.

Bratislava (or Pressburg) is another famous old market town, founded by the Romans as their outpost on the Danube, almost opposite the confluence of the March. It is on the Orient Express Route and a branch line goes to the mining districts of Slovakia in the Waag Valley.

Ostrau, a coal-mining centre on the Oder, and *Olmutz*, on the March, are busy industrial towns in the Moravian Gate.

Slovakia is a thinly-peopled, forested region at the foot of the Carpathians. Most of the small villages lie in the valleys of the rivers which flow southward to the Danube. The peasants are famous for their artistic pottery, lacework and embroidery, but education has been neglected. Difficulties of communication tend to isolate it from the more prosperous western parts of the country and its rich mineral resources have not yet been developed. *Kassa*, an old fortress and modern railway junction with iron works, is the only town of any size.

AUSTRIA

This country, which became a republic after the Great War, was in May 1934 officially declared a " Federal State." It is about as large as Ireland and with less than seven million people. It may be conveniently divided into (1) the Upper Danube Valley from Passau on the German frontier to Bratislava in Czecho-Slovakia, and (2) the eastern ridges and valleys of the Alps.

The Austrian portion of the Danube is navigable for small river steamers and is very picturesque. It is bordered by narrow well-cultivated plains producing cereals and sugar beet, above which rise well-timbered highlands.

Vienna, the capital, and till 1918 also the capital of the great dual monarchy of Austria-Hungary, is one of the largest cities of Europe. It grew up where the Danube leaves its narrow upper valley for the broader plain and where the natural routes from North-eastern Europe by the Moravian Gate and from Italy by the Semmering Pass converge on the great waterway of Central Europe (Fig. 30). Modern railways following these ancient roadways, as also that across Czecho-Slovakia by the Elbe Valley to Berlin, have added to the importance of the city. Vienna is beautifully laid out and has famous Parliament Houses, colleges, art galleries and museums. The city has suffered much from the break-up of the old Empire of which it was the capital, but owing to its favourable situation will probably recover. *Linz* is the only other town of any size in this region. It is at the confluence of the pic-

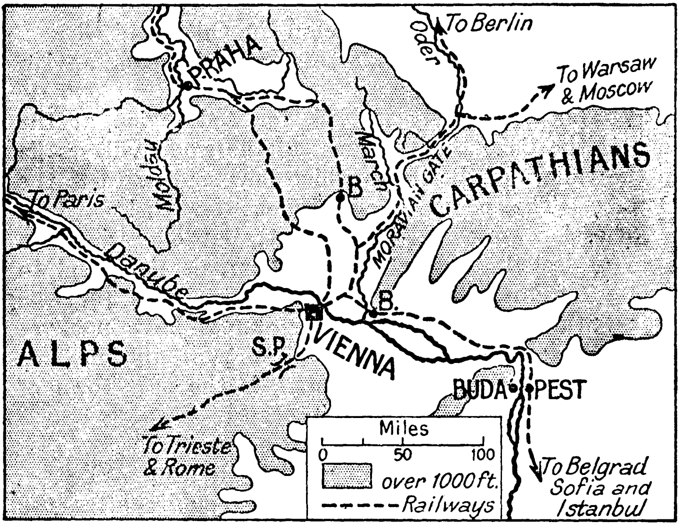


FIG. 30.—Vienna as an important route centre.

[*Photo: Austrian Federal Railways.*

SALZBURG, LOOKING NORTH. (*See page* 136.)
This city is the birthplace of Mozart.

turesque Traun Valley with that of the Danube and is on the Orient Express Route. Local supplies of salt, iron and coal have given it manufacturing industries.

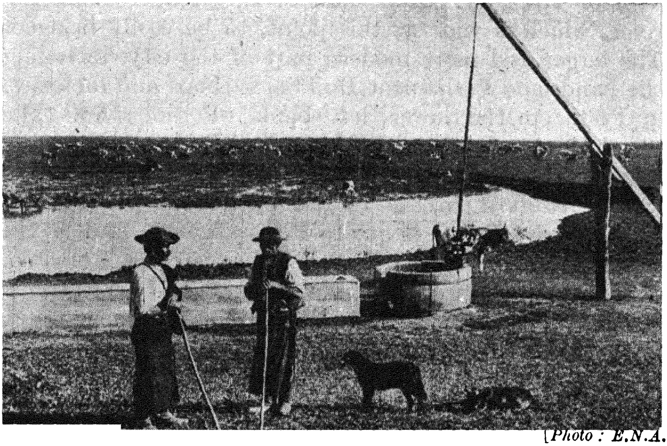
The Austrian Alps are famous for their scenery, the Tyrol and that portion of it in the valley of the Inn, known as the Engadine, being visited by thousands of tourists every year. The Tyrolese peasants are famous for their courtesy, their picturesque costumes and music, and their skill in wood-carving. Forestry and dairy-farming are their chief means of livelihood, and the tourist industry is becoming increasingly important.

Innsbruck, which, as its name implies, grew up at a bridge-point on the Inn and is also at the limit of navigation for small boats on that river, is the tourist centre of the Austrian Tyrol and the chief market town of the region. It also uses the water-power supplied by the melting snows of the Alps for small textile industries. It is an important railway junction for lines to Vienna, to Italy across the famous Brenner Pass, and to Switzerland via the Aarlberg Tunnel.

Graz, picturesquely situated on the River Mur, has also valuable supplies of iron ore and coal, and has therefore developed important smelting and hardware industries. It is the second largest city of Austria. *Salzburg*, on the little River Salzach, is claimed to be one of the most beautiful towns in the world. An ancient castle perched on a tree-covered crag overlooks the town and the river, and away to the south rise the snow-clad ridges of the Alps. Between the town and the mountains lie some of the most picturesque valleys, lakes and villages of Europe. The town receives its name from the vast salt-mines in the mountains close at hand.

HUNGARY

Hungary is slightly larger than Austria and has a slightly greater population. It is at present nominally a monarchy but is controlled by a regent. Physically it is just an extensive treeless plain, like a portion of the Russian steppe, enclosed by the forested Carpathians, the mountains of Slovakia and Austria, and the rivers Drave and Danube. The plain is watered by the great north-and-south stretch of the latter river and by its parallel tributary the Theiss. These rivers are useful for navigation and irrigation, but are subject to serious floods in spring and early summer when the snow melts on the mountains at their source.



[Photo : E.N.A.

A TYPICAL SCENE ON THE HUNGARIAN PUSZTAS.

Note the vast treeless plain, the large herd of cattle, the Magyar herdsmen and the well.

The climate is rather extreme and rainfall is scanty, so that many of the Magyars still lead a semi-nomadic existence with their flocks and herds of sheep, cattle and horses on the wind-swept *pusztas*, as the plains are called in Hungary. Near the rivers, however, large areas have been brought under cultivation for wheat, maize, sugar beet and tobacco, and on the south-facing slopes of the Carpathians vines are grown. The villages are small and straggling, consisting of a number of single-roomed thatched cottages spread out along a very broad and dusty unpaved road. The market towns are simply larger and more straggling villages, built round a vast open market-place capable of accommodating many hundreds of animals during the fairs.

Buda-Pest, the capital, is the only city of modern European type. The old city, Buda, was built on an easily defended hill-site on the plain overlooking the Danube and fairly centrally situated in the old kingdom of Hungary. An island in the river enabled the river, which is wide at this point, to be easily bridged. The larger and more modern part of the city, including the handsome Parliament Buildings, shops and factories, is Pest, on the lower left bank of the river. The great Orient Express Route from Paris to Istanbul follows the Danube through the city, and other railways radiate from it to the tourist centres of the Bakony Forest and Lake Balaton, to Fiume at the head of the Adriatic, to the Upper Theiss Valley and to Romania. These railways bring in grain, sugar beet and hides, which are the raw material of the flour-milling, sugar-refining, brewing and leather industries of the city. *Szegedin*, at the confluence of Theiss and Maros, and *Debreczin*, a railway junction on the pusztas of the north-east, are market towns each with more than 100,000 inhabitants. *Tokay*, on the Theiss, is famous for its wine.

QUESTIONS AND EXERCISES

1. Draw a sketch-map of the River Danube indicating the principal cities and countries along its banks.
2. Describe the different natural regions through which one would pass on a voyage down the Danube from the Black Forest to the Black Sea.
3. Why has there been so much strife in this region of Europe throughout the course of history ?
4. Draw sketch-maps illustrating reasons for the growth of Bukarest, Praha, Buda-Pest, Innsbruck.
5. What do you understand by a " country " ? What physical and human conditions make for the stability of a country ?

6. Discuss the advantages and disadvantages of (*a*) a river, (*b*) a range of mountains as the boundary between two countries.
7. Contrast Austria with Hungary, physically and economically.
8. Why has the small country of Austria such a large capital city as Vienna?

CHAPTER XV

THE BALKAN PENINSULA

Physical Features

This, the most easterly of the three Mediterranean peninsulas of Europe, takes its name from the folded range of the Balkan Mountains in the north-east. They are very rugged, and although they rise fairly gradually from the valley of the Lower Danube, they descend abruptly to the Morava and Maritza Valleys. Only two difficult passes are available for road and railway: the valley of the Isker to the west, and the Shipka Pass to the east. South of the Maritza Valley lies the old hard mountain block of the Rhodope, one of the wildest, most inaccessible and least known regions in Europe. The rest of the peninsula is filled by the southern extension of the lower Alpine folds, the ends of which have been partially submerged, forming the many small peninsulas, islands and narrow gulfs of Greece. Coastal plains are everywhere narrow, and only in the broader parts of the river valleys is there any considerable population. The two main highways of communication across the peninsula are the valleys of the Morava and Maritza, followed by the Orient Express Route from Belgrad to Istanbul, and the important branch route down the Vardar Valley to Salonika.

Climate and Productions

Unfortunately the mountains are not rich in minerals, and the life of the people depends mainly upon what they can grow. The mountains receive abundant rain and snowfall and for the most part are well forested with conifers in the higher parts and beech and oaks on the lower slopes. The trees provide building material and fuel and the acorns and beech-mast feed considerable herds of swine, especially in Yugo-Slavia. The Dinaric Alps consist mainly of porous limestone and therefore do not retain sufficient moisture for tree growth, but most parts carry sufficient coarse pasture for flocks of sheep and goats.

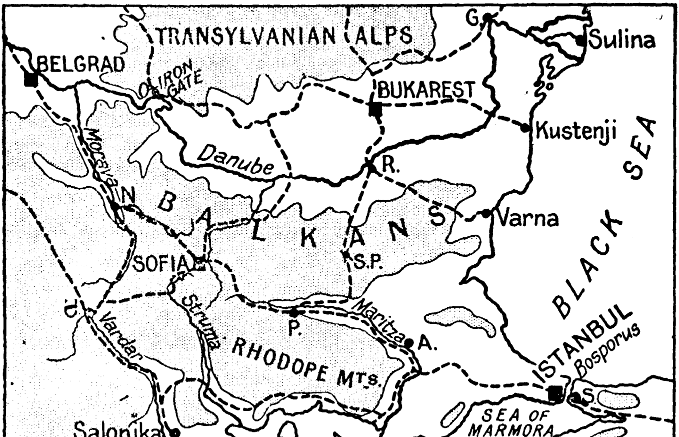


FIG. 31.—The "Orient Express" and other important routes across the Balkan Peninsula.

The southern and western valleys enjoy the congenial Mediterranean type of climate. The winters are mild and receive considerable rain from cyclones in the prevalent westerly winds of that season; while the summers are hot and dry, such winds as blow being mainly from the north-east. This climate, added to the fertile soil, favours the growth of wheat and maize, olives, grapes and figs. Olive oil in Greece, and indeed in most countries of the Mediterranean, largely takes the place of butter, especially for cookery. The tiny black grapes are dried in the sun and exported as currants, receiving their name from the city of Corinth around which they are most largely grown. In the plains of the north and east the winters are severe, suffering from cold winds blowing out from the frozen centre of the continent. The continental influence also causes the summers to be hot, and most of the rather scanty rainfall comes in that season with winds from the Black Sea. These plains support herds of cattle and grow good crops of wheat, maize and tobacco. The principal fruit tree is the plum, whose blossom beautifies all the Serbian valleys in spring-time and whose dried fruit, called prunes, forms one of the few exports of Yugo-Slavia. The mulberry tree is cultivated to feed silkworms, and the Maritza Valley is famous for its rose gardens, which supply an important scent industry.

PEOPLES AND HISTORY

The fertile valleys and coast plains of the peninsulas and islands of the Ægean Sea have been the homes of civilized peoples since the dawn of history, recent researches having shown that even the ancient Greeks were originally the rude disturbers of the peace of still more ancient and civilized peoples. But the Greeks who flourished from two to three thousand years ago have left their mark on civilization for all time. Taking advantage of the blessings of congenial climate, fertile soil and picturesque scenery, they used their leisure to develop learning, philosophy, politics, literature, art and architecture. With the decay of the power of the Greeks the peninsula came under the sway of the Romans, but much of what was best in Greek life and culture survived and has influenced the civilization of Europe to the present day. Greek plays are still performed in English theatres, many large public buildings in England owe their stately dignity to Grecian models, while British statesmen and others still claim to receive inspiration from ancient Greek literature.

The Roman Emperor Constantine established his capital on the Bosporus at the city which, until recently, bore his name, and when the Vandals swarmed over the Alps and sacked Rome in A.D. 455, Constantinople remained for several centuries the capital of the Roman Empire from which learning and Christianity spread into the surrounding lands. In the seventh century, however, under pressure from stronger tribes in Central Asia, as we have seen, some of the Slav peoples began to settle south of the Danube, to be followed later by the Asiatic Bulgars and still later by the Turks. The Turks held the Balkan Peninsula from the fifteenth to the nineteenth century, when bit by bit the Greeks and Slavs, Bulgars and Romanians succeeded in regaining their territory. In the Great War of 1914–18, Bulgars and Turks fought with Germans and Austrians against the Slavs and Romanians, but the success of the latter and their allies resulted in the extension of their territory. The Slavs of Serbia then united with the Slavonic Croats and Slovenes, who had gained their freedom from Austria, to form Yugo-Slavia, the land of the South Slavs, and the Turkish territory in Europe was reduced to a small area behind Constantinople.

BALKAN STATES OF TO-DAY

Yugo-Slavia (or the Serb-Croat-Slovene State) is a country almost as large as the British Isles and has about fourteen million inhabitants. The most valuable parts of the country are the valleys of the Save and the Morava. There are good harbours on the Adriatic coast where a sinking of the land has let in the sea to the valley behind the coastal range, the higher parts of which remain as a protecting chain of islands. But the mountains behind are rather bare and hinder communication with the more fertile parts. There is, however, a railway from *Ragusa* to the Save Valley through *Serajevo,* following the winding valleys of the Narenta and Bosna.

Belgrad, the old capital of Serbia, is the capital of the new kingdom. It lies in a good defensive position overlooking the confluence of the Save and the Danube and also in a position to control the important Morava Valley. The important Orient Express Route follows this valley from Belgrad to *Nish,* which is the important junction for Istanbul via the Maritza valley and for Salonika via the Vardar Valley. *Zagrab,* the second largest city, is the market town of the Upper Save Valley and the junction of railways from Budapest, Fiume and Belgrad.

Bulgaria consists of the fertile plains along the lower Danube and Maritza rivers and the Black Sea coast, with the rugged highlands of the Balkans and the Rhodope Mountains. The kingdom has about six million people, most of whom are engaged in agricultural or pastoral pursuits.

Sofia, the capital, lies at the junction of four river valleys: the Nishava and Maritza are followed by the Orient Express Route, and the Isker and Struma valleys carry the railway from Uskub to the Danube. *Philippopolis,* the second city, is the chief town of the fertile Maritza Valley. It is famous for the production of attar of roses. It is also a junction for lines from Sofia and Istanbul, from *Rustchuk,* a grain port on the Danube via the Shipka Pass, and from the Black Sea port of *Burgas.* *Varna* is the largest port, sending out tobacco, wheat, maize and hides, and importing textiles, machinery and other manufactured goods.

Greece. The modern State is about half the size of the British Isles and has some six million people. Most of these are engaged in agriculture, but the nature of the country encourages some to engage in seafaring. Greek shipping is, however, declining. The country is suffering from centuries of political unrest.

Athens, the modern capital, lies around the foot of the hill on which stood the famous ancient city-state with its glorious architecture which now lies in ruins. A modern railway follows the line of the old walled road to its seaport, *Piræus*, six miles away, and other railways run to the fertile plains of Thessaly and the coastlands of the Morea Peninsula with its cornfields, olive orchards and vineyards.

Salonika, the second city, has a good harbour to the east of the malarial delta of the Vardar River, whose valley it serves. It exports the typical Macedonian products of tobacco, olives and olive oil. It has rail connection with the Orient Express Route at Nish, and with Istanbul through the fertile plains of Thrace. *Patras*, on the Gulf of Corinth, is the collecting centre and seaport of the important currant industry, which provides the most valuable export of Greece.

Turkey. Most of the Turkish territory now lies in Asia Minor, but about ten thousand square miles extend into Europe between the Bosporus and the lower Maritza valley. *Istanbul*, a city of a million people, is the largest city in the Republic of Turkey and in the Balkan Peninsula. It has a fine harbour on the Golden Horn, an arm of the Bosporus, and commands the passage from the Black Sea to the Mediterranean. This important sea route here crosses the great land route from Western Europe to the Persian Gulf, a ferry service from Istanbul to Scutari linking the great Orient Express Route with the Baghdad Railway. Among the many famous buildings of Istanbul is the Cathedral of St. Sofia, built as the centre of the Eastern Christian Church, but since 1453 used as a Mohammedan mosque. The Galata Bridge across the Golden Horn is one of the busiest thoroughfares in the world.

The only other Turkish town of importance in Europe is *Adrianople* (or Edirne). It stands at the great bend in the Maritza river where it is joined by two tributaries and where the Orient Express Route leaves the valley to cross the plain to Istanbul. It is the centre of a fertile area producing grain, tobacco and wine.

QUESTIONS AND EXERCISES

1. Make a list of the Balkan States and their capitals.
2. What are the distinct natural regions of Bulgaria ? Describe briefly the climate and productions of each.
3. Name some famous buildings in London which are built in a Grecian style. What are the characteristics of that style ?
4. Why are the Greeks not such a relatively important people in the modern world as their ancestors were in the ancient world ?
5. Draw sketch-maps to illustrate factors in the growth of Belgrad, Sofia, Istanbul, Athens.
6. Note the part of the Orient Express Route between Belgrad and Istanbul in Fig. 31. Why did the route not follow the Danube Valley ?

CHAPTER XVI

ITALY

This country, full of ancient and modern interest, occupies the central peninsula of the Mediterranean and the neighbouring islands of Sicily and Sardinia. Its present area and population are slightly less than those of the British Isles. In physical features, climate, productions and industries, Northern Italy differs considerably from the south, and we will study these regions separately.

NORTHERN ITALY

This includes the great Plain of Lombardy and its encircling mountains, the Alps and the Apennines. Both ranges are parts of the geologically recent folded mountains of Central Europe and are built mainly of limestone. The Plain of Lombardy and the Adriatic Sea are the depressed region between the folds. The plain is made of rich alluvial soil washed down from the mountains on either side; the great River Po and its tributaries are still continuing this work and gradually silting up the northern end of the Adriatic Sea. It is interesting in this connection to note that the town of Adria, from which the sea was named, is now about twenty miles inland in the middle of the joint delta of the Po and the Adige Rivers.

The Alps rise very steeply from the plain. The foothills are fertile and cultivated in terraces, grapes ripening to perfection on the south-facing slopes, which are intensely hot in summer. Higher up the limestone tends to become bare and only hardy pine trees manage to grow on the slopes. But the valleys and plateaux even at higher levels are quite fertile and also provide good pasture. Some of the lower valleys, now dammed by the moraines of the glaciers which filled them in ancient times, contain beautiful lakes surrounded by orchards and dark cypress trees, above which the distant mountains rise steeply to the snowline. Maggiore, Como and Garda are all famous tourist resorts. The valleys of the rivers which supply these lakes and also of other rivers descending from the Alps lead up to important Alpine passes followed by ancient roads and modern railways, putting Italy in touch with Central Europe (Fig. 32). Note especially the Mt. Cenis Pass and tunnel, the Great St. Bernard Pass, famous for its hospitable monastery and the dogs trained by the monks to rescue snowbound travellers, the Simplon Pass and tunnel, the Brenner Pass with both road and railway surmounting it. Many streams descending from the Alps have been harnessed for water-power, and the modern industrial development of the cities on the Plain of Lombardy is mainly due to this relatively cheap source of electricity. Wonderful zigzag roads fit for motor traffic have in several places been carved out in the face of the steep mountain slopes to bring the villages on the plateaux in touch with the plain: the modern Italian seems to have inherited the skill of the ancient Roman as a roadmaker.

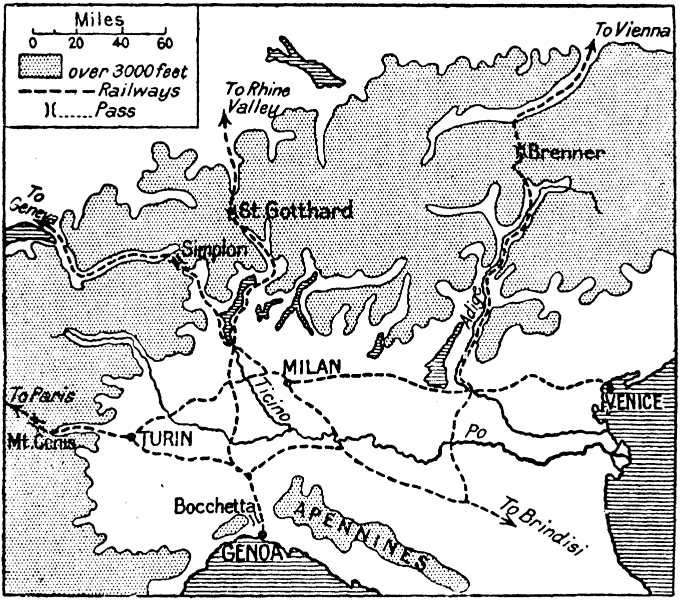


FIG. 32.—The mountain girdle of the Plain of Lombardy and the important routes across it.

The Plain of Lombardy is from its nature extremely fertile and easily cultivated, and is one of the most thickly-peopled agricultural regions in the world: nearly half of the people of Italy live within its borders. Its winters are quite cold and snow is by no means uncommon, but its summers are hot and most of the rain in this part of Italy comes in the warmer months. Summer thunderstorms too are rather frequent, and when accompanied by hail often do great damage to the crops, especially the grapes. The rivers, especially in the eastern half of the plain, tend to silt up their beds and to overflow unless embanked. For this reason it will be noticed that there is no town of any size on the banks of the River Po. But the water, if properly controlled, is very useful for irrigation, and in this way good crops of rice are actually grown in the hot summers. Wheat is, however, the chief grain crop, and after it comes maize.

The latter is the chief food grain of most of the people. It is ground up into a yellow flour which is stirred into the pot of boiling water over a wood fire on the open stone hearth. The resulting product is called " polenta," and when it is like a thick porridge it is poured out on to a slab of wood and sets into a large soft flat round cake. Every farm also grows grapes, at least sufficient to make its year's supply of wine, which is the common beverage of the country and appears on the table at every meal. The vines look very picturesque trailing over small, stout trees, and these latter often serve a double purpose, being the kind of mulberry whose leaves are used to feed silkworms. The " worms " are reared in the houses of the people on great trays arranged one above the other. From the time the eggs are hatched to the time of spinning the cocoons occupies about six weeks in the early summer, and the bulk of mulberry leaves consumed in this period is enormous. The cocoons are taken in great baskets to the nearest market town, where they are bought by merchants who sell them to the silk factories. There the silken thread is reeled off, spun and woven. Only a small number of the silkworms are allowed to change into the moths, which lay the eggs for the next year's crop. Silk and silk goods form the chief export of Italy.

Considerable numbers of dairy cattle are kept; on the small farms always in sheds, grass being cut for them from under the vines, and other fodder crops being grown. Cheese is a fairly common article of diet, and the Gorgonzola and Parmesan cheeses are also known outside Italy. There is insufficient pasture to feed herds of cattle for meat, and little meat is eaten by poor Italians, but splendid white bullocks are the chief beasts of burden for ploughing and for transport in the Plain of Lombardy.

Most of the farms are quite small and are tilled by the owner and his family. The villages consist of a group of farms around the parish church, which is usually distinguished by a tall campanile or bell tower serving as a landmark for miles around. The larger market towns are situated where the many good roads and the railways of the plain cross the rivers running to the Po from the Alps or the Apennines. Many of these towns have small textile industries, and a few, especially favoured by accessibility of water-power or raw material, have grown to fairly large cities.

Milan, the largest city of the region, is also the second city of Italy in point of size. It is a great route centre. The roads over the Simplon and St. Gotthard Passes converge upon it down the valleys of the Toce and Ticino and meet the great main road running from east to west between the mountains and the marshes along the Po. All these routes are followed by modern railways, adding to the importance of the city. It has always been a market for the corn, wine, silk and dairy produce of the plain; and iron ore, worked in the foothills of the Alps, gave it a mediæval reputation for swords and cutlery. The modern development of water-power has led to the establishment of big textile mills using local silk and imported silk from China and Japan, cotton from America and Egypt, and wool from Argentina, where large numbers of Italian colonists form a market for the finished products of the mills. Milan, as the largest railway junction in the country, has important railway works, and it has also developed a large motor-car industry. Its great seaport—

Genoa, is reached by a railway which tunnels under the Bochetta Pass in the Apennines. This seaport, with a fine natural harbour on the tideless Mediterranean, serves not only the Plain of Lombardy, but also Switzerland and Southern Germany since the construction of the Alpine tunnels ; and has the largest share of the commerce of the country. It has been famous since the Middle Ages, when it was the capital of an independent State with a large Mediterranean trade, and Columbus was a native of Genoa. The discovery of the Cape Route to India led to its temporary decline, but since the opening of the Suez Canal its importance has increased. Genoa imports coal, iron, corn, cotton and wool, and exports silk, cotton and silk goods, motor-cars, wines, and the fibres of hemp, which is cultivated in the Plain of Lombardy.

Turin is another fine city of Northern Italy. It grew up at the confluence of the Po with its tributary the Dora Riparia, along whose valley come the road and railway from the Mt. Cenis. Like Milan it has textile and motor-car industries, utilizing water-power from the Alps. A railway runs southward crossing the low Col dell Altare and reaching the Riviera at *Savona*. ste

Bologna is an ancient city which grew up where the road from Rome to Trieste crossed the Apennines by one of the two easy passes across them and met the important road following the northern foot of the mountains from Turin to Brindisi. As the two most important railways of Italy follow these ancient roads, Bologna is now the headquarters of the administration of the Italian State Railways.

Venice was founded when the Huns swarmed over the Alps and caused some of the inhabitants of Lombardy to take refuge on the small islands in the shallow lagoon at the head of the Adriatic Sea. By their industry they gradually built up a trading city-state which had become wealthy and world-famous by the Middle Ages, controlling most of the trade between the Levant and Northern Europe. The famous Cathedral of St. Mark, the Palace of the Doges, or Dukes, the canals and gondolas which take the place of streets and wheeled vehicles, all date from that time and make Venice a fascinating city to-day. It is also famous for its artistic glass and mosaic work, the glass being made from fine quartz sand found in Istria, and the mosaics with coloured marble pebbles found on adjoining shores. Venice is still a commercial seaport and it is also a naval station with a shipbuilding industry. Railways converge upon it from Trieste, Vienna, Milan and Rome, all crossing the two-mile viaduct which links the city with the mainland.

Padua, a famous mediæval university city, and *Verona*, an old Roman city, are large and important centres still; and these, with many other famous places of past ages, make the Plain of Lombardy full of interest to foreign visitors as well as to the native Italians.

SOUTHERN ITALY

This consists of the long, narrow peninsula formed by the Apennines and the bordering coastal plains.

The Apennines are a range of folded mountains separated from the Alps by the relatively low "col" or pass behind Savona. They lie very close to the coast round the Gulf of Genoa and, rising steeply from it, add to the picturesque scenery of the Italian Riviera, which they shelter from cold northerly winds in winter. The mountains then strike across to the east coast near Ancona and keep close to it for about three hundred miles, after which they curve back into the "toe" of Italy and spread out to fill the island of Sicily, which is separated from the mainland only by the narrow

Strait of Messina. The Apennines are mainly built of limestone, but the block of high land between the Arno and the Bay of Naples is really not part of the system and consists of a worn-down block of much harder and older rocks. Where the Apennines curve round this block, parts of which subsided into the Tyrrhenian Sea, there has been much volcanic activity in ancient times and the country is by no means settled down yet. Earthquakes are quite common in this region and Vesuvius, near the Bay of Naples, is a famous active volcano. In A.D. 79 a disastrous eruption overwhelmed the seaside resort of Pompeii, killing practically all the people and covering the city with ashes to a depth of 30 feet. Even in recent times outflows of lava from the crater of Vesuvius have destroyed orchards, houses and people of some of the many villages that nestle at the foot of the mountain on account of the fertility of the volcanic soil washed down the slopes.

The line of volcanic activity is continued through the Lipari Islands, where the ever-smoking Stromboli lights up the night sky, to Sicily, where the snow-capped volcanic cone of Etna, two miles high, has been a landmark in the Mediterranean for centuries. Earthquakes and a resulting tidal wave wiped out towns and villages on the Strait of Messina only some twenty years ago. The volcanic districts, especially in Sicily, have valuable deposits of sulphur which are worked for export, and pumice stone, a kind of lava full of steam holes, is also a valuable product. Under heat and pressure limestone rock is sometimes converted into marble, and peninsular Italy is rich in this valuable ornamental stone. The quarries of white marble at Carrara are world-famous and supply the sculptors of all nations with material for their best work. Italian artists have also become highly skilled in the making of mosaics, which are pictures and decorative designs made by fitting together small pieces of coloured marble.

The Apennines are high and rugged and form a considerable obstacle to communications, very few passes having been negotiated by the roadmakers of ancient Rome or the railway engineers of modern Italy. The upper slopes and valleys of the Apennines have considerable forests of chestnut trees, the fruit of which provides an important foodstuff for the herdsmen of sheep and goats who live a rather hard life among the mountains. But there has been much destruction of the forests in past times with very bad results. The hill-sides have been denuded of soil by heavy rains and the rivers have become silted up in their lower courses, forming swamps which are infested with malaria-carrying mosquitoes. This disease is the curse of the people of the plains of Southern Italy; and the present Government, under the inspiring and powerful leadership of Mussolini, has given much attention to draining the swamps, which have been reclaimed for agriculture, and to preserving and enlarging the forest areas. Eucalyptus trees, introduced from Australia, have been found to thrive.

The Coastal Plains and River Valleys are for the most part fertile and productive. The winters are mild and the cyclones of the Westerlies bring most of the rain at this season, the west coast naturally receiving heavier rainfall than the east. The summers are very hot and dry and ripen corn and fruits to perfection. The hard wheat of Southern Italy is famous, and the flour made from it can be converted into the cereal pastes, such as macaroni, vermicelli, etc., which are characteristic Italian products. Grape vines, olive, orange and lemon trees, with their long roots or small tough leaves, or both, enabling them to withstand the summer droughts, bear abundant crops of fruit for home consumption and export; and most of the people of Southern Italy are agriculturists. A few engage in fishing, especially in the shallower Adriatic, while the sardine fisheries off Sardinia, from which the fish take their name, are considerable. But Italy imports large quantities of dried codfish from Newfoundland and barrels of pickled herrings and pilchards from Britain.

Life in Southern Italy is fairly easy and comfortable, much time being spent in the open air, and, although most of the people are poor and illiterate, they seem happy and light-hearted. The intense blue of sky and sea, the picturesque mountains, the quaint villages with smiling vineyards and orchards, encourage artistic development, and Italy is famous for its poets, musicians, painters and sculptors. Many of its cities have a glorious history, and their fine buildings remain to remind us of the past. Although since the break-up of the old Roman Empire Italy has been much divided for centuries, she has in the past fifty years under a settled and united government made great strides in the development of her natural resources.

Rome grew to the height of its power as the capital of an energetic people whose country was well situated to control both the eastern and western basins of the Mediterranean Sea. It was built on seven low hills rising from the Tiber at the point below which the river was navigable for the galleys of those days, and where an island in the river facilitated the building of a bridge. But although the ancient Romans ruled the Mediterranean, conquering Greece and Carthage, Egypt and Palestine, their power was spread and consolidated by the building of great roads leading from Rome to all parts of their conquered territories. It also became the centre of the early Christian Church, and although its political power declined its religious supremacy remained. The ruins of the Forum, the great open market-place once surrounded by magnificent buildings and triumphal arches, of the Colosseum, a huge amphitheatre, of the aqueducts that brought fresh water to the city from the hills, and of the great Roman baths, still remain to remind us of the city's former splendour. The catacombs, or underground burial-places of the early Christians, the great Cathedral of St. Peter, the Vatican or residence of the Pope with its famous library and art treasures, and scores of magnificent churches, are full of interest. The modern city, much improved under Mussolini's government, has also some fine buildings and busy industrial quarters, and Rome has now become the largest city of the country. Railways radiate, along the lines of the old Roman roads, to Genoa and Milan, to Florence and Venice, to Naples and Brindisi; and its fairly central position makes it a suitable centre of government, although it is not in the most thickly-peopled part of the country.

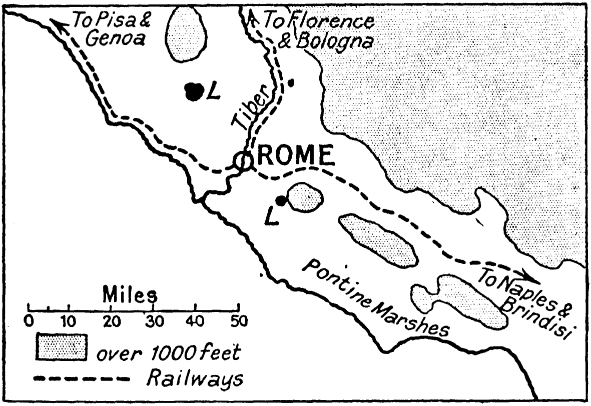


FIG. 33.—The position of Rome.—Note the old crater-lakes (L) which supply drinking-water to the city. Much of the marshland has now been reclaimed.

Naples is the third largest city of Italy, owing its importance to the fine harbour and the fertile plain behind it, which is freer from malaria than the plains to north and south. The beauty of its bay, from the blue waters of which the light-coloured houses rise in terraces, with intervening olive gardens and orange orchards, and with the threatening but fascinating cone of Vesuvius completing the view, is world-famous (Fig. 34). The streets of the city are, however, narrow, dirty and crowded. It ranks next Genoa as a seaport, exporting fruits, hemp and macaroni. With its large population it has developed modern manufactures, using mainly imported coal and raw materials in its textile and motor works and sugar refineries. The ruins of *Pompeii*, which have been cleared of their covering of volcanic ash, disclosing the nature of the houses, shops and other buildings of an old Roman town, are reached by electric railway from Naples; and the crater of Vesuvius can also be reached by a cable railway, so that Naples has a considerable tourist industry.

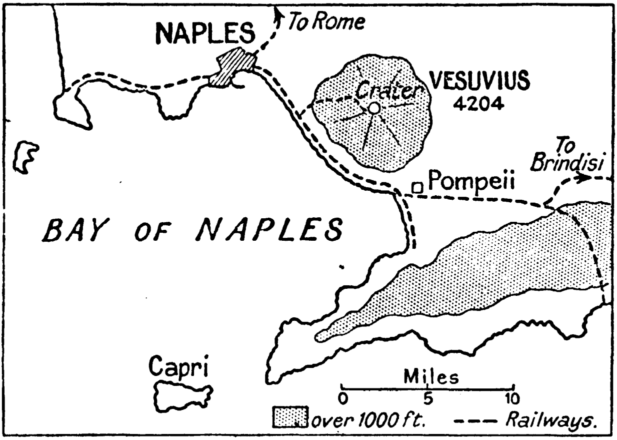
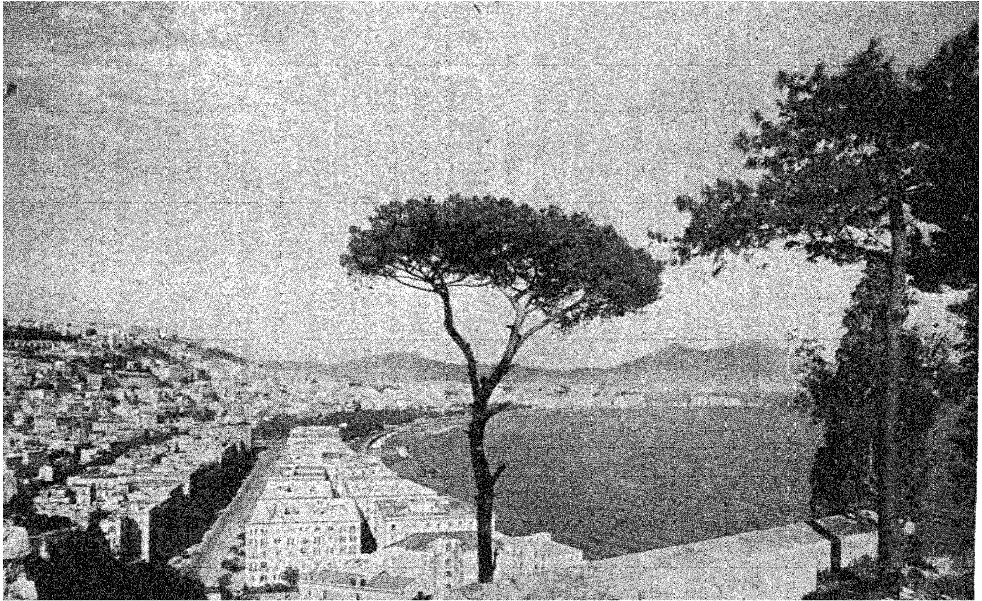


FIG. 34.—The world-famous Bay of Naples.

Florence, the capital of the province of Tuscany, is a fine city beautifully situated on the Arno, where it emerges from the Apennines into a valley far famed for its wines and its olives. As the centre of one of the old city-states of Italy it was renowned for its artistic life. Dante, the greatest of Italy's poets, Michaelangelo the sculptor, Raphael the painter, Giotto the



[*Photo: E.N.I.T.*

THE BAY OF NAPLES WITH VESUVIUS IN THE DISTANCE.

The tree in the foreground is the stone—or umbrella—pine. Identify the view-point on Fig. 34.

architect, were all famous Florentines of the Middle Ages, and the art galleries and churches of the city are full of priceless works of art. *Pisa*, its old seaport, has lost its importance with the silting up of the Arno, but its leaning tower and its university, where the great sixteenth-century scientist, Galileo, learnt and taught, make it world-famous.

Leghorn, with a good harbour, is now the chief port of Tuscany. It exports wine and olive oil and has an important straw-hat industry. *Palermo*, the capital of Sicily, is the sixth city of Italy in size. It has a fine harbour with a great export trade in wine, oranges and lemons. *Messina* is another large city with a similar trade, and *Catania* is the great port for the sulphur quarries near Mt. Etna. *Brindisi*, on the heel of Italy, is interesting as being a packet station on the shortest "overland" route between Britain, Egypt and India. A fast packet service links up with liners at Port Said, and by using the rail route across France and Italy via the Mt. Cenis tunnel passengers from London save about ten days *en route* to that port, and reach Bombay in a fortnight.

QUESTIONS AND EXERCISES

1. At Modane, the station at the western entrance of the Mt. Cenis tunnel, while the French steam locomotive is being exchanged for an Italian electric one, the passengers usually spend some time in the station in exchanging their money and altering their watches. Explain these occurrences.

2. Compare the farming of the Plain of Lombardy with that of East Anglia.

3. The following figures give the mean January and July temperatures in degrees Fahrenheit, and the mean rainfall of spring (March–May), summer, autumn and winter for Milan and Rome respectively. Point out and explain what they indicate as to the climate of the two places.

Milan : 35, 77—10, 9, 13, 8.
Rome : 45, 77—7, 3, 11, 9.

4. Draw sketch-maps illustrating reasons for the growth of Milan, Genoa, Venice.

5. Compare and contrast Italy with Great Britain physically and economically.

6. Why was Rome relatively more important in ancient than in modern times?

7. If you had the opportunity, how would you plan to spend a month's holiday in Italy? Give reasons for your choice of itinerary.

8. Name some world-famous Italians of ancient, mediæval and modern times, and state briefly why they are famous.

9. By what routes would (*a*) Italian silk come to Britain, and (*b*) British coal go to Italy respectively? Explain the reason for the difference in the routes.

CHAPTER XVII

THE IBERIAN PENINSULA

PHYSICAL STRUCTURE AND HISTORY

This is the largest and most compact of the three southern peninsulas. The heart of it consists of a plateau of old hard rocks, not folded but much fractured. It is called the Meseta or tableland. To the north run the folded ranges of the Pyrenees and Cantabrian Mountains, and to the south the Sierra Nevada, all of which are part of the Alpine system of mountain folds which encircle the Mediterranean (Fig. 35). It will be remembered that the Atlas Mountains of Northern Africa are a continuation of these folds which have been broken across, forming the Strait of Gibraltar. Between the Meseta and the Pyrenees lies the sunken trough of the Ebro Valley, just as in the south the plain of Andalusia lies between the Meseta and the Sierra Nevada. The Mediterranean coastal plain is quite narrow but very fertile, while the lowlands along the Atlantic littoral are much wider.

During the time of the Romans the Iberian Peninsula was governed as a whole, but with the break-up of the Empire it also was broken up into separate kingdoms, and remained so until the eighth century, when the invasions of the Arabs, or Moors, from Morocco, of which we have already learnt, began. The Mohammedans gradually spread all over the peninsula except for the province of Asturias on the Bay of Biscay, which retained its independence behind the barrier of the Cantabrian Mountains. From this small nucleus two centuries later began the reconquest of the peninsula by the Christians, but it was not till the fifteenth century that the Moors were finally expelled. In their seven centuries of occupation they had, however, built some fine cities and laid out some splendid irrigation schemes, especially in the south-east, and these remain till to-day. After the Moors had gone the Atlantic coastlands formed the kingdom of Portugal, the Meseta became the kingdom of Castile, while the Ebro Valley was the independent kingdom of Aragon. In the seventeenth century the two last united to form the kingdom of Spain. To-day both Spain and Portugal are Republics, but in other respects this political division of Iberia has endured. As the structural divisions of which we have already spoken are associated with distinct climatic conditions and productions, we shall consider each of them separately.

THE NORTHERN MOUNTAINS

The *Pyrenees* form one of the most formidable mountain barriers in Europe, the highest peaks exceeding two miles in height and the passes being little lower. Only one railway linking France and Spain tunnels through the main chain; the others go round either end. The lower slopes are forested and there is also pasture for sheep, goats, and mules, which form the chief wealth of the scanty peasant population. A small group of villages at a height of a mile and a half above sea-level forms the tiny independent Republic of *Andorra.*

The *Cantabrian Mountains* are not so high and are crossed by several roads and railways. The northern slopes receive abundant rainfall from cyclones travelling across the Bay of Biscay, and are well forested with conifers in the higher parts and deciduous trees on the lower slopes. The coastal plain and river valleys grow good crops of the hardier cereals and fruits. But the chief wealth of this region is in its minerals. There are good deposits of coal near *Oviedo* and large quantities of rich iron ore farther east. Most of this is exported from *Bilbao* and *Santander* to South Wales, but some is now smelted at these ports with coal imported as a return cargo. These industries are worked by the Basque people, who are very energetic and enterprising and who also differ in race and language from both their Spanish and French neighbours.

The Ebro Basin and Catalonia

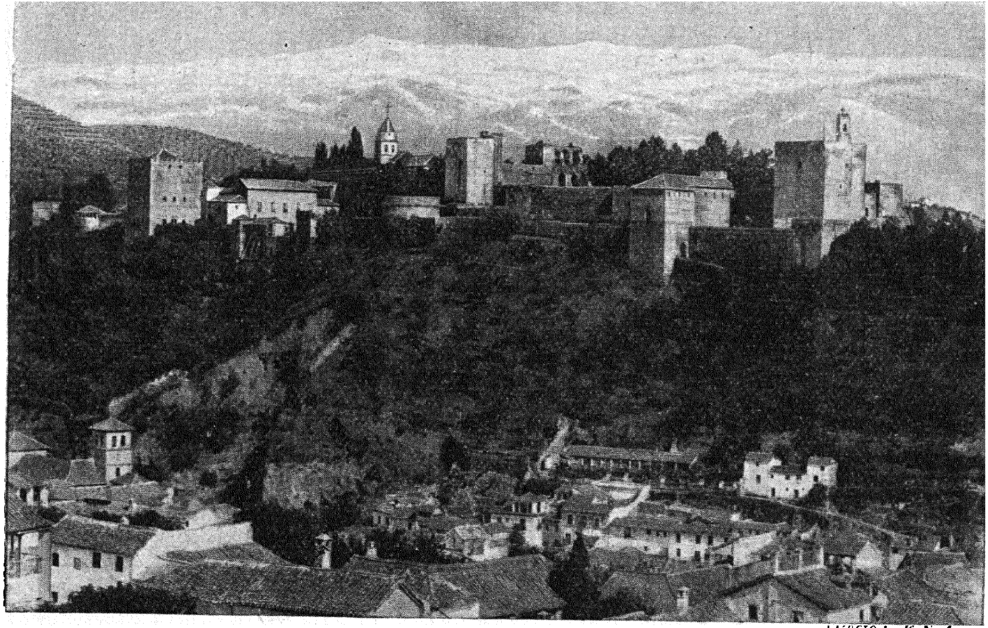
This is a region of hot, dry summers and cool winters with little rain. The valley is fertile and with irrigation grows good crops of corn and vegetables, especially onions. Vines, olives and nuts are also cultivated. The Ebro is of little value for navigation as it breaks through the bordering mountains in a narrow winding gorge and has a delta at its mouth. The chief town of the area is therefore in the middle of the basin at *Zaragoza,* the capital of the old kingdom of Aragon, and a meeting-place of roads and railways.

Barcelona, with a good natural harbour, has become not only the chief seaport of this fertile region, with which it is connected by rail across the mountains, but the chief port and the largest city in the whole country. Using coal from Gerona and water-power from the Catalonian Mountains, it has developed important textile industries, using imported cotton and home-produced wool, silk and flax. Barcelona also controls the important east-coast route to France. The Catalans are an energetic industrious people and exercise considerable political influence in the country.

THE SOUTH-EAST COASTLANDS

These are some of the most fertile and thickly-peopled parts of Spain. They have the typically Mediterranean climate of hot, droughty summers with mild winters in which most of the rain comes. But lying to the east of the plateau of the Meseta the rain brought by the Westerlies to this region is rather scanty and irrigation is essential to successful agriculture. But the Moors came to this region with experience of an exactly similar one on the other side of the great sea and brought their successful methods with them. They built aqueducts to bring water from the hills, sank wells and terraced the land so that all available water could be economized. The irrigated "huertas," or gardens, still produce magnificent crops of grapes and olives, oranges and lemons, peaches and pomegranates. Plantations of date-palms established by the Moors at Elché are still productive, while farther south both rice and sugar-canes are cultivated. Mulberry trees are grown in the provinces of Valencia and Murcia, giving rise to silk industries, and small quantities of cotton are grown. The region is thus principally a producer and exporter of fresh and dried fruits, wine and olive oil, but in the Sierra Nevada there are good supplies of iron, lead and copper ores, which are worked mainly for export.

Valencia, an old Moorish city, is the largest town of the region and the third city of Spain. Besides being a great market centre and seaport for the fruit and wine trade, it uses wool from the sheep of the Meseta and locally produced silk in its textile industries. Esparto grass grown on the plateau is used in weaving mats and baskets and also for making paper, while large quantities



[Photo: E.N.A.

THE ALHAMBRA AND THE SIERRA NEVADA.

(*See* p. 164.) What kinds of trees are shown in the picture?

are exported to Britain and other countries for the latter industry. *Malaga* and *Murcia* are also large towns and provincial capitals with similar industries.

ANDALUSIA

This region practically coincides with the valley of the Guadalquivir, or "great river" of Spain. It was so named by the Moors owing to the constancy of its flow. Lying open to the west, it receives abundant rain in the winter months, while the melting snows of the Sierra Nevada, or Snowy Mountains, keep up its flow in the hotter and drier summers. The river is liable to silt up in its lower course, but careful dredging allows ocean steamers to reach Seville and smaller vessels Cordoba. The fine climate and great wealth of this region give opportunities of open-air life and leisure to its people, and this is the region of Spain so frequently described in song and story. Its well-watered plains produce rich pasture and good cattle, and Andalusian bulls and bull-fighters provide the national "sport" of the country. Andalusia was held for a long period by the Moors and all the cities of the region show their influence. The Moorish palace and fortress of the Alhambra at *Granada*, their old capital, is a magnificent example of their architecture. In the Cathedral at Granada are the tombs of Ferdinand and Isabella, the monarchs who finally expelled the Moors, united Spain into one kingdom, and enabled Columbus to make his epoch-making discoveries in the New World at the end of the fifteenth century.

Seville, established by the Moors and further enriched by the wealth brought from Mexico and Peru in the sixteenth century, is the capital of Andalusia and the fourth city in Spain. It is famous for the bitter oranges grown in the neighbourhood and exported from the city, while it also exports large quantities of other fruit and wines, especially sherry, which takes its name from the district of *Xeres* where it is produced.

Cadiz is a naval harbour and seaport, and the little port of *Palos* is famous as being the starting-place of the great voyage of Columbus. *Huelva* is the port of export for the copper ore from the famous mines of the Rio Tinto, most of which goes to South Wales for smelting.

THE MESETA

This is the largest but most thinly-peopled region of the country. It consists of a much-faulted but unfolded plateau of very ancient crystalline rocks. The upturned edges of the faulted blocks run across the country like rugged mountain ridges, and their saw-like profile has given rise to the name of " Sierra " by which they are called (Fig. 35). The old rocks are rich in minerals, including iron, copper, lead and mercury. Mercury is worked in the form of the yellowish red ore called cinnabar at *Almaden* near the Sierra Morena. Mining is, however, rather a neglected industry in this region.

The general slope of the Meseta is from east to west, as is shown by the trend of the great but not very useful rivers which cross it. The short swift streams that descend the steep eastern escarpment provide water for power and irrigation to the Mediterranean coastlands, but the big rivers flowing to the Atlantic have excavated deep, narrow, winding gorges at the bottom of which they flow, useless alike for navigation or irrigation. Their valleys too are obstacles rather than aids to road and railway construction, and the rivers are only really useful after they have tumbled over the western escarpment of the plateau to the coastal plains of Portugal.

Most of the Meseta is over two thousand feet above sea-level, and is so removed from the moderating climatic influences of the ocean that it has cold winters and intensely hot summers, while its rainfall is very scanty. Under these conditions most of the region is therefore only fit for poor pasture. Goats and sheep thrive on the Meseta, and the famous "Merino" sheep which produce the fine wool of Australia and South Africa are descended from animals introduced from this region. The coarse esparto grass is harvested for home use and for export. In regions where irrigation is at all possible, as in the upper Douro Valley, good crops of fine hard wheat can be grown, while the vine and sugar beet are also cultivated. Most of the few people of the region live in small isolated villages.

Madrid, the largest city of the region, has become the capital of Spain, its only merit for this purpose being its central position, which has been emphasized in modern times by making it the focus of the railway system of the country. Lines radiate from it (1) by *Valladolid*, the market centre of the fertile upper Douro Valley, to the iron-mining centres of the Cantabrians, and the French frontier near the health resort of *San Sebastian*; (2) by *Toledo*, an old capital of Castile and of Spain famous for its mediæval swords, and thence to *Lisbon*, the capital of Portugal; (3) by *Zaragoza* and *Barcelona* to the French frontier; (4) across the plateau to the fertile plains of Andalusia and the Mediterranean coast towns. As the Spanish lines are on a wide gauge there is a break of journey at the French

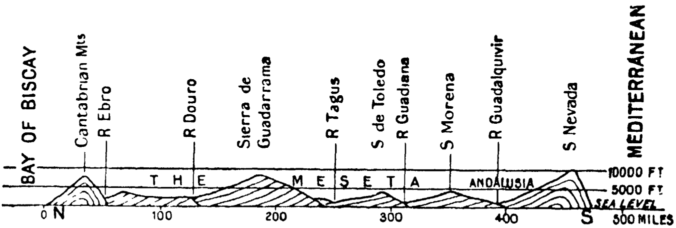


FIG. 35.—Diagrammatic section across the Iberian Peninsula in Long. 4° W. showing the folded ranges of the Cantabrian Mountains and the Sierra Nevada, and the tilted and faulted plateau blocks of the Meseta.

frontier. This defensive measure is, of course, a hindrance to trade.

Spain has had a famous past, especially in the centuries following the expulsion of the Moors and the discovery of the New World. But riches came too easily from the latter source, and the natural wealth of Spain which the Moors had so well exploited was neglected. An unwise policy with regard to their great overseas possessions resulted in the loss of nearly all of them, so that the foreign territory of Spain is now not as large as the mother-country itself, and is of relatively little value. Spain is half as large again as the United Kingdom and has less than half as many people; but considerable efforts are now being made to develop more fully the natural resources of the country.

PORTUGAL

This separate political division of the Iberian Peninsula is also a fairly well-marked natural region, differing greatly in physical features and climate from the adjoining Meseta. It consists of fertile plains along the Atlantic coast and the Douro and Tagus Valleys. The climate is magnificent, mean temperatures only ranging from about 50° F. in January to 70° F. in July, and the rainfall being abundant and well distributed. The edges of the Meseta and the Sierras are also rich in minerals. With all these advantages Portugal should be a thriving country; but, as in Spain, there has been a tendency to live on the glories of the past, when adventurous Portuguese sailors founded colonies in Africa, South America and Asia, as we have already learnt, and the homeland has suffered from neglect.

The mountain forests of Portugal are very valuable, especially those of the cork oak, whose thick bark provides the cork of which Portugal is the world's greatest producer. Large herds of swine also feed on the acorns in the oak forests. Grapes and olives are cultivated, and the Douro Valley produces the finest port wine in the world. Much olive oil is used in packing sardines, which are caught off the southern coasts and form a valuable export. The tunny-fish, another native of the Mediterranean, is also caught off the Portuguese coasts, but Portugal imports vast quantities of codfish from Newfoundland. Wheat, maize and other cereals are cultivated and many fruits and vegetables are grown for home consumption. Large quantities of rice are imported, and this is probably due to the fact that there is a considerable negro element in the population of Portugal, the blacks having been introduced from Africa to work on the farms several centuries ago.

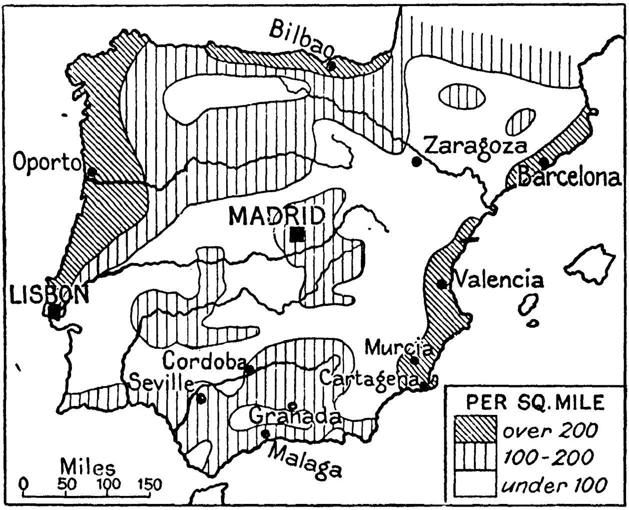


FIG. 36.—Density of population and cities of over 100,000 people in the Iberian Peninsula.

Most of the seven million people of Portugal live in small villages and market towns, the only places of any size being *Lisbon*, the capital, and the great wine port of *Oporto* at the mouth of the Douro. It will be noted that these towns have grown where the two great river valleys open out on to the coastal plain.

Lisbon, a city of more than half a million people is beautifully situated on land rising from its splendid harbour on the Tagus estuary, but it has unfortunately several times suffered from severe earthquakes. Railways connect it with the coastal towns and with the towns of the Spanish Meseta. Lisbon collects fruit and cork for export and also manufactures olive oil. It has large tile factories carrying on an industry introduced by the Moors, and the tiles are extensively used in Portugal both for interior and exterior decoration of buildings. Lisbon imports coal from Britain and tropical produce from the Portuguese colonies in Africa.

Setubal, a small port to the south of Lisbon, is the centre of the Portuguese sardine industry, and it also prepares salt by evaporation from shallow lagoons along the coast.

Questions and Exercises

1. Compare the structure of the Iberian and Balkan Peninsulas.

2. Why was the Iberian Peninsula relatively more important in the sixteenth century than either in ancient or modern times ?

3. "The rivers of plateau regions are seldom of great value." Discuss this statement, giving examples from other plateau regions of the world.

4. The following figures give the mean January and July temperatures and mean seasonal rainfall in inches of Lisbon and Madrid. Represent them graphically on the same scale and account for the differences observed.

Lisbon : 51° F., 71° F.—9, 1, 8, 11.
Madrid : 40° F., 77° F.—6, 2, 5, 4.

5. Use Fig. 36 to describe and account for the distribution of population in the Iberian Peninsula.

6. Name the foreign possessions of Portugal. When and how were they acquired ?

7. Why are the racial problems of the Iberian Peninsula fewer and simpler than those of the Balkans ?

8. Draw sketch-maps to illustrate reasons for the importance of Madrid, Lisbon, Barcelona.

9. The values of the chief articles of commerce passing between Spain and Great Britain in 1931 were as follows in millions of pounds:

Exports: Oranges, 5; Onions, 1; Iron Ore, 1; Wine, 1; Grapes and Raisins, 1. Total, 13.

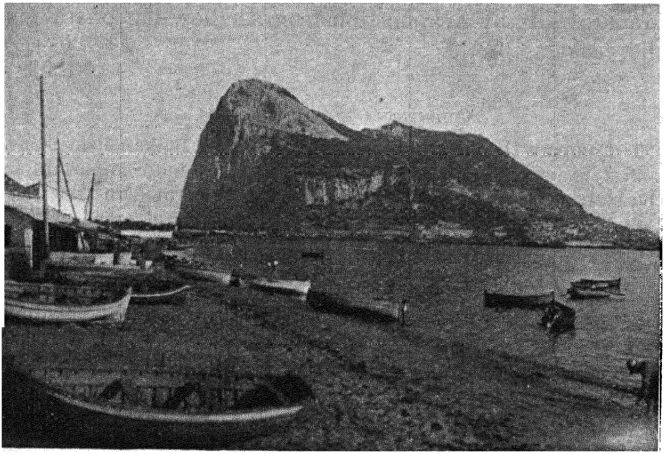
Imports: Machinery, 1; Coal, 1; Iron and Steel, 1; Total, 5.

Contrast these, and in each case state the regions and ports from which the products probably came.

CHAPTER XVIII

BRITISH STATIONS IN THE MEDITERRANEAN

Gibraltar, commanding the entrance to the Mediterranean Sea, consists of a huge limestone rock about three miles long, which descends very steeply on the north side to the low, narrow isthmus that links it to Spain. The isthmus and the fine harbour on the Bay



[*Photo: Peninsular and Oriental Steam Navigation Company*

THE ROCK OF GIBRALTAR.

of Algeciras to the west are commanded by the guns in the galleries of the rock, at the foot of which lie the dockyard and the coaling jetties (Fig. 37). The rock is unproductive, and is only maintained as a naval and military station on account of its control of the important British trade routes to India and the Far East.

Malta is about as large as the Isle of Wight and has a considerable native population as well as the British naval and military forces. It has a fine natural harbour at *Valetta*, and its control of the two basins of the Mediterranean Sea has made it important throughout the course of history. All the powers that have contested the supremacy of the Mediterranean at different periods have held Malta. It too is built of porous limestone, and the absence of streams on this account makes wells necessary for drinking water and for irrigation. It has the typical Mediterranean climate and produces fine corn, fruit and vegetables. Trees and pasture are scanty, but the abundance of flowers leads to a small export of honey. The native women are skilled lace-makers.

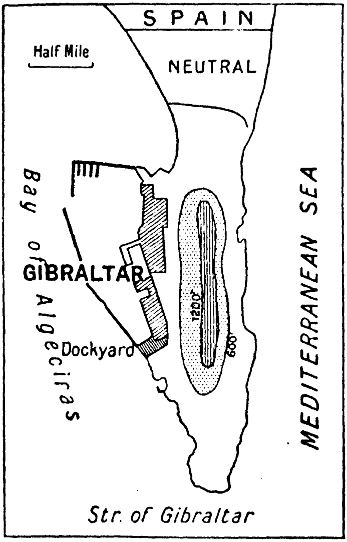


FIG. 37.—The Rock of Gibraltar.

Cyprus is the largest but least important of the British islands in the Mediterranean. It also is composed of limestone and suffers disadvantages similar to those of Malta on that account. It contains supplies of copper originally worked by the ancient Phœnicians for their bronze industry, and Cyprus is known to have been inhabited from earliest times. It has the usual congenial climate and fertility of Mediterranean lands, but suffers from considerable drought at times. Besides the usual Mediterranean crops it grows cotton under irrigation, and the big black seed-pods of the carob or " locust " tree are exported in large quantities for making cattle cake. The neighbouring seas yield sponges. The island has suffered from neglect by the Turks, who ruled it for three centuries, but with the development of its mineral wealth and of irrigation schemes it should become very productive. Its capital is the small town of *Nicosia*, situated in the central valley of the island and connected by rail to the port of *Famagusta* on the east coast.

QUESTIONS AND EXERCISES

1. Name the various peoples who have controlled Malta at different periods in its history.

2. Draw a section across Gibraltar, using the same vertical and horizontal scales.

3. Why is Cyprus less important strategically than Gibraltar or Malta ?

4. The following data for Valetta show that its climate may be regarded as typically Mediterranean. Mean monthly temperatures are in degrees Fahrenheit and rainfall in inches. Plot both sets of figures on the same piece of squared paper. Each set starts with January.

Temperature : 55, 56, 57, 61, 66, 73, 78, 79, 76, 71, 64, 58.
Rainfall : 3·2, 2·2, 2·5, 0·9, 0·3, 0·0, 0·0, 0·1, 1·3, 2·9, 3·7, 3·8.
Which would you regard as the best months in which to visit Malta ? Why ? Compare summer and winter in Malta with the same seasons in your own district.

5. Compare and contrast the Mediterranean and Baltic Seas physically, politically, commercially, and historically.

6. Compare the eastern and western basins of the Mediterranean Sea. Name the natural routes which enter each and state what region each route serves.

7. Draw a sketch-map of the Mediterranean and mark upon it (*a*) the mountain masses and ranges surrounding it, (*b*) the natural routes converging upon it, (*c*) the capitals of the ancient Empires on its shores, (*d*) the chief modern cities around it.

CHAPTER XIX

SWITZERLAND

This is one of the smallest and probably one of the happiest countries in Europe. It has about twice the area and twice the population of Wales, and its hardy, fearless mountain people have managed to remain independent of their powerful neighbours for several centuries. They have also managed to keep out of the devastating wars in which these richer States have squandered their wealth from time to time ; and Switzerland has come to be looked upon as a haven of peace in which, when exhausted with their attempts to destroy each other, these powerful peoples may once again meet on a friendly footing and consider plans for their mutual good.

The country falls easily into three well-marked divisions, the Alpine Region, the Central Plateau, and the Jura Mountains.

THE ALPINE REGION

This is the part of Switzerland made known to all by railway posters advertising summer holiday tours and winter sports. It lies in the south of the country and contains the highest ridges of the Alpine mountain folds. The Pennine Alps contain *Mt. Blanc*, over three miles high, the highest peak in Europe and the boundary stone of three countries, while the *Matterhorn* and *Monte Rosa* are other giants of this range. To the north and separated from this ridge by the great down-fold of the upper Rhone Valley lie the Bernese Alps, with the *Jungfrau* and other famous peaks. These two ranges come together in the mass of *Mt. St. Gotthard* from which other ranges of the Alps also radiate. More important still, four river-valleys also converge at this point, those of the Rhone, the Rhine, the Reuss and the Ticino.

Over the pass between the heads of these last two valleys, where the high Alps are narrowest, has always run an important road connecting Northern and Southern Europe, and the construction of the railway tunnel under the St. Gotthard Pass has made this one of the most important commercial routes of modern times. The success of this tunnel led to the construction of others under the *Simplon* and the *Lotschberg*, to provide a parallel route, the Simplon tunnel being over twelve miles in length (Fig. 40).

As this part of the Alps consists of hard granitic rocks, and is high enough to be snowcapped at all times, the rugged peaks form an attraction for the lover of mountain scenery and the mountain-climber alike. Many tiny villages in the high valleys, e.g. *Zermatt*, *Interlaken*, *St. Moritz*, have now large hotels to cater for the thousands of foreign tourists that visit them every year, and the tourist industry has become the chief means of support of many thousands of Swiss people.

The vast quantities of snow that collect on the higher ranges descend into the valleys either as swift and destructive avalanches, such as in the past have been known to destroy whole villages, or as glaciers whose motion is invisible to the casual observer. These glaciers now melt before reaching the bottom of the valleys, giving rise to the rivers, but in earlier times they seem to have been much more extensive. The old glacial valleys are recognized by their steep sides, the rocks on which often show signs of having been smoothed and scratched by the moving ice, and by their broad, flat floors over which meander the small rivers which now take the place of the mighty glaciers of old. Tributary streams tumble down the steep sides of the main valleys from the high "hanging valleys," which were also once filled with ice, forming tributaries to the ancient main glacier (Fig. 38). The many waterfalls are now one of the great assets of Switzerland, providing it with electrical power for lighting and heating and for driving machinery, and making the country famous for its electrical engineers. The electricity is generated at power stations near the falls and conveyed by overhead cables to the larger towns on the plateau, which thus carry on their industries without being disfigured by the smoke and grime so characteristic of British manufacturing towns.

LENK: A TYPICAL SWISS HEALTH RESORT IN AN OLD GLACIAL VALLEY AMONG THE BERNESE ALPS.

Below the line of perpetual snow are the famous high Alpine pastures on the shoulders of the mountains. These are green and bright with flowers in the summer months, and to them the herdsmen from the villages in the lower valleys drive up their famous dairy cattle for the season. The herdsmen live on the Alps throughout the summer in picturesque wooden huts or châlets, and prepare butter and cheese for sale in the tourist centres and towns of the plateau. Below the pastures lies a belt of pine forests which supply building material and fuel, and also serve to protect the lower villages from the effects of avalanches. Many of the Swiss, too, add to their income by carving wooden toys and souvenirs for sale to tourists. The lower valleys are cultivated for corn and vegetables, while hay and root crops are grown to supply the cattle with winter food. On the south-facing slopes of some of the southern valleys vines can even be successfully cultivated. The north-facing valleys do not see the sun above the mountain tops for many weeks in winter, and they then welcome the föhn wind which, coming from the south, is dried in crossing the Alps and warmed by its descent into the valleys.

THE PLATEAU

This is an undulating region, averaging about half a mile above sea-level, lying between the Alps and the Jura. The main slope is towards the north-west, as can be seen by the courses of the numerous rivers which drain to the Aar. The many lakes of the region are due to the damming of valleys by the moraines of ancient glaciers (Fig. 38). Notice especially *Lake Constance*, which is a widening of the Rhine on the German frontier and *Lake Geneva*, a widening of the Rhone on the French frontier, as well as *Lucerne* and other famous Swiss lakes. Several examples may be noted of long lakes dividing into two by the deltas of streams entering the lakes, while even the larger lakes are gradually silting up.

The winter climate of this region is severe and it is usually covered with snow for several months, but the summers are warm enough to ripen maize and grapes in favoured spots as well as the common English cereals. Potatoes and the sugar beet are cultivated and considerable areas are kept in grass to feed dairy cattle. There

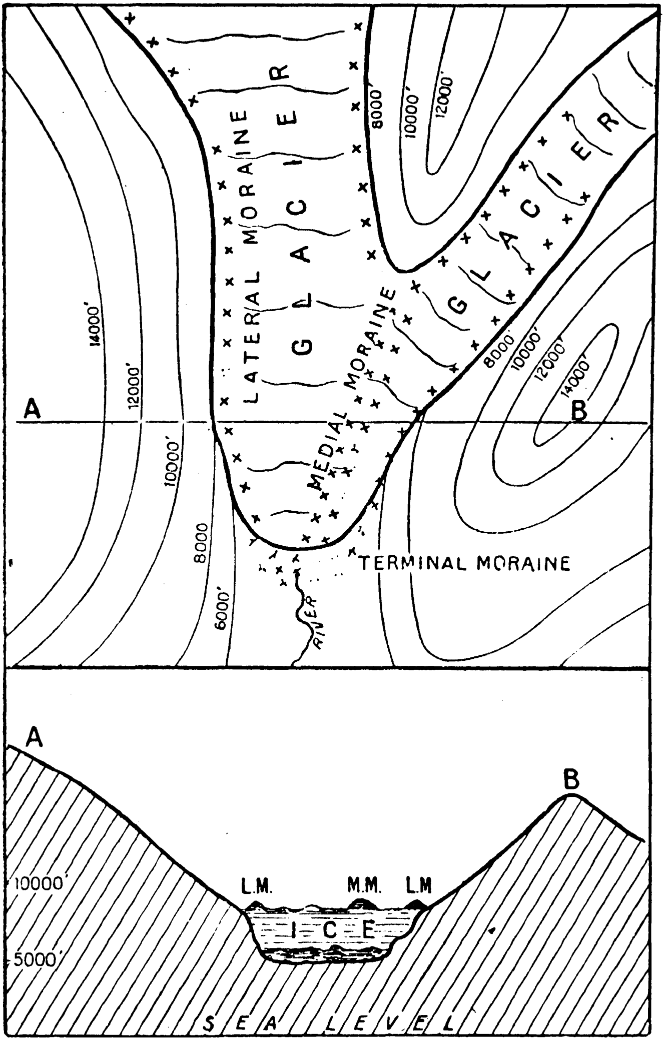


FIG. 38.—Diagrammatic Map and Section of a glacier-filled valley showing the flat bottom, steep-sided valley, moraines, etc.

are also forests of beech, oak and chestnut, which are carefully preserved by the Government.

All the larger towns of the country lie in this region. Most are market towns which have developed manufacturing industries with the help of water-power from the Alps. Surplus milk from the dairy farms is "condensed" and exported, while home-produced milk and beet sugar, together with imported cocoa, have led to a big chocolate industry. The making of watches and clocks, originally carried on in the homes of the people, is now an important machine industry, while the making of electrical instruments and machinery is a natural development due to abundance of water-power and lack of coal. Silk, imported from Northern Italy via the Alpine tunnels, and American cotton sent up the Rhine to Basel, are manufactured in many towns. Owing to the high cost of land transport Switzerland, it will be seen, has devoted herself to manufactures which are valuable in proportion to their bulk, and with the export of these articles she is able to purchase from abroad additional foodstuffs and raw materials for her workers and their industries.

Berne, centrally situated on an easily defended loop in the navigable Aar, has become the capital and railway centre of the country. Notice the important routes to the Rhine and Rhone Valleys, the direct route to Paris via *Neuchatel*, a famous chocolate and watch-making centre, the route into Italy via the Lotschberg and Simplon tunnels, and the famous tourist route to Lucerne, Zurich and the Engadine.

Zurich, on the lake, is the largest town in Switzerland, having important textile and electrical industries, while *Lucerne*, with its picturesque lake and easy access to the Alps, is a famous tourist centre. Around its lake lie the four forest "cantons," or counties, of Lucerne, Unterwalden, Uri and Schwyz, which, having withstood the tyranny of the Hapsburgs in the thirteenth century, formed the nucleus of modern Switzerland. William Tell, the great national hero, lived at Altdorf near the lake.

Basel, situated at the great bend of the Rhine, commands routes in both directions and also the natural route between the Vosges and the Jura Mountains. It is also on the boundary of three States and has therefore become an important railway centre, with hardware. textile and chemical industries.

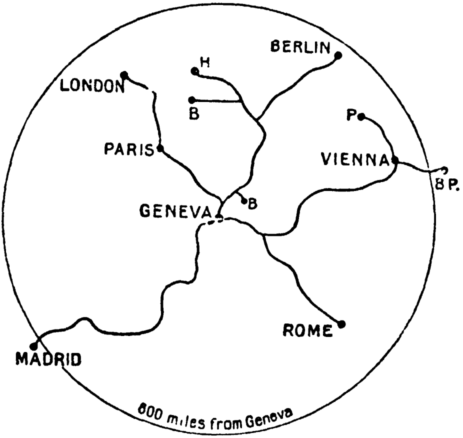


FIG. 39.—Geneva, the centre of the League of Nations, European Capitals within a day's journey of it, and the routes which link them to it.

Lausanne and other towns on Lake Geneva are tourist centres and have condensed-milk and chocolate industries, but perhaps the most famous of all Swiss towns is *Geneva* itself. Its central situation and easy accessibility with regard to all the powerful countries of Western Europe (Fig. 39), added to the independence of its people, have caused it to become a recognized centre for international conferences of all kinds. At the close of the Great European War it was decided to form the League of Nations, in the hope of averting such another catastrophe, and Geneva was selected to be the centre of the League's activities. Geneva is beautifully situated where the clear and navigable Rhone leaves the lake, and it has long been famous for its university and for its watch industry.

THE JURA MOUNTAINS

These are a number of ridges and valleys parallel to the main course of the Alps, and made of oolitic limestone similar to that of the English Cotswolds. They are in the main thinly-peopled pasture lands, but the vine thrives on their warmer southern slopes in Switzerland. Watch-making is important in the villages of the Jura, and Geneva and Neuchatel are the chief collecting centres of that industry. The latter town also commands the only easy route across the Jura ridges, and as this is the shortest route between Paris and Berne, it is very important.

PEOPLE AND GOVERNMENT

Although the Swiss have long been an independent people, there is no Swiss language. Two-thirds of the people, chiefly those living in the northern part of the plateau, speak German ; those on the western borders speak French, and the few who live in the southern valleys of the Alps speak Italian (Fig. 40). Most of the people are well educated and many speak all three languages. There is complete religious freedom, most of the German-speaking people being Protestants and the others Roman Catholics. Each of the twenty-five cantons, or counties, conducts its own affairs, but sends two representatives to the Upper House of the Federal Government at Berne, while the Lower House is directly elected by the people. The two Houses jointly elect the President of the Confederation annually. Disputed Parliamentary questions are often settled by a " referendum " to the people as a whole, who vote for or against a definite proposal rather than for or against the people who have proposed it.

QUESTIONS AND EXERCISES

1. How does an old glacial valley differ from a river valley which has never been glaciated ?

2. What do you understand by the terms glacier, avalanche, moraine, hanging valley ? Why does a glacier sometimes have more than two moraines ?

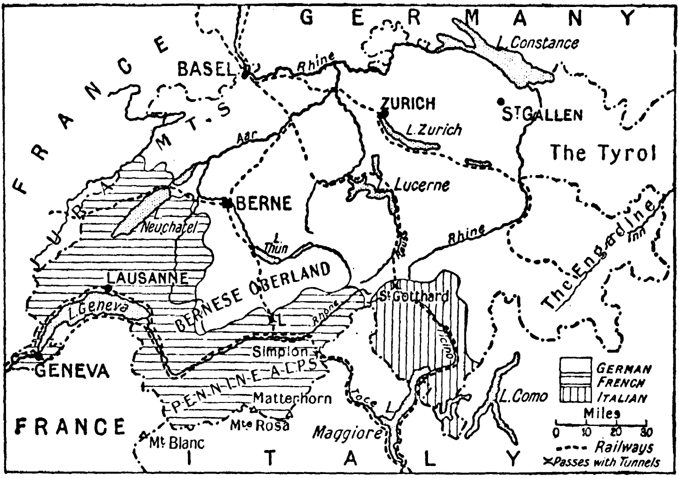


FIG. 40.—Sketch-map of Switzerland showing (i) the four river valleys radiating from Mt. St. Gotthard, (ii) the six largest towns, (iii) well-known holiday districts, (iv) the languages most common in different cantons.

3. Compare the "föhn" wind with the "chinook" in origin, character and utility.

4. Given the opportunity, how would you propose to spend a month of the summer holidays in Switzerland in order to get some idea of the country as a whole ?

5. Draw a section across Switzerland southward from Basel, indicating the chief features brought out by the section.

6. What are the advantages and disadvantages of being a native of a small country with no foreign possessions ?

7. Compare the life of a Swiss herdsman with that of an English dairy farmer.

8. What articles of Swiss manufacture are imported into Britain? By what routes do they reach us?

9. Switzerland consists of about 16,000 square miles of land divided as follows: Unproductive, 28 per cent.; Forest, 21 per cent.; Pasture, 25 per cent.; Under Crops, 26 per cent. How are these areas distributed over the country? Has the "unproductive" area any value for Switzerland?

10. Draw a sketch-map showing reasons for the growth of Basel.

CHAPTER XX

THE SCANDINAVIAN PENINSULAS

These are the large and mountainous peninsula on the north-west coast of Europe occupied by Norway and Sweden, and the smaller lowland peninsula of Denmark separated from the former by the Skager Rak and the Kattegat. They have been inhabited from early times by a race of people mainly tall and fair-haired, speaking similar languages, engaging in similar industries by land and sea, and professing the same religious beliefs. Up till the eleventh century they were great sea-raiders, the British Isles suffering very much from their inroads and actually being under "Danish" rulers for many years. The Normans were also descended from some of these Northmen who had taken possession of the coasts of France along the English Channel. Norwegian sailors also established colonies in Iceland, Greenland and the east coast of North America, thus being the first to cross the Atlantic, and their whale fisheries also extended to Spitzbergen in the Arctic Ocean. Sometimes in the course of history all the Scandinavian peoples have been under one ruler, while at other times each section has chosen its own king. At present there are the three separate kingdoms of Norway, Sweden and Denmark.

Spitzbergen belongs to Norway, and Iceland, although largely independent, acknowledges the King of Denmark. Greenland is also a Danish possession.

NORWAY

Fiords and Fisheries

Norway consists of the mountainous western part of the larger peninsula, one of the oldest and hardest portions of Eurasia. Its old granitic rocks, much folded and faulted, have been so much weathered by rain and frost and ice that they form a plateau of average height about 4,000 feet above sea-level. Only a few harder masses rise to greater heights. The plateau, much dissected by valleys once filled with glaciers, presents

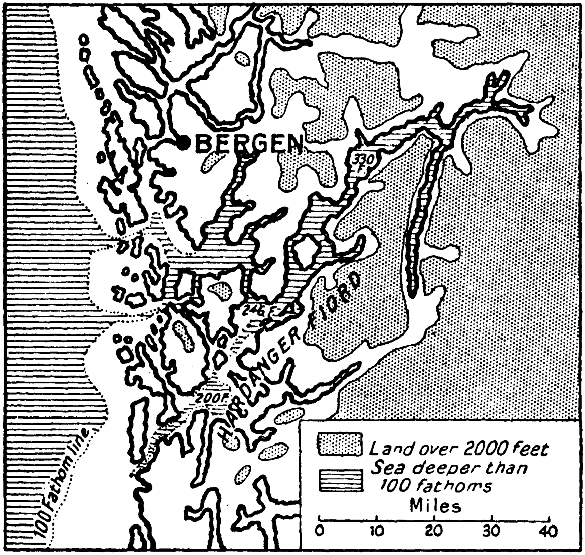
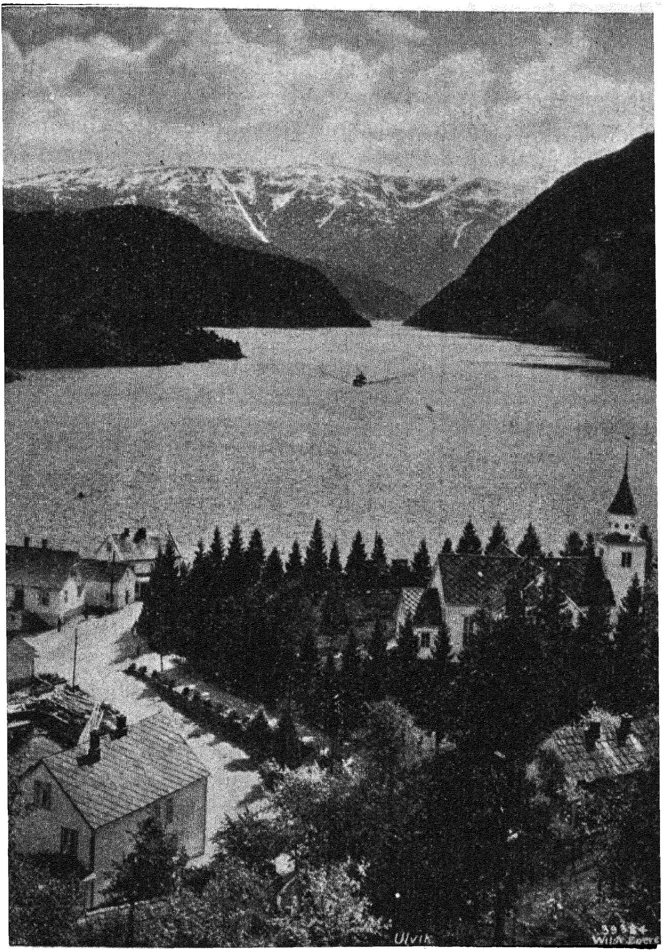


FIG. 41.—A typical piece of Norwegian coast.—Note (i) the Hardanger Fiord, deeper inside than at the mouth, (ii) the "Skerries."

its steepest front to the Atlantic and is tilted more gently towards Sweden. For the greater part of the year it is covered by snow and ice, and the highest parts remain covered throughout the summer, sending glacial tongues down into the higher valleys. The coast is broken by thousands of magnificent *fiords,* some of which, such as the Sogne Fiord, extend almost a hundred miles inland.

These long, winding and relatively narrow inlets have steep rocky sides, rising sheer out of deep water (Fig. 41), so that large liners can enter them quite easily. At the head of the fiord a river usually enters, sometimes bringing water from a melting glacier which fills the higher part of the valley. During the Ice Age these fiords, originally due to rifts in the rocks or to excavation by rivers, were completely filled with glaciers, which smoothed and steepened their sides. The fact that the fiords have shallower water at their entrance than inside is believed by some to be due to the deposit of the terminal moraine of these glaciers as the ice melted on entering the sea. The river entering the head of the fiord is usually swift and brings down much silt from the highlands. On entering the calm water of the fiord this silt is deposited, and in time builds up a sort of delta. In a country where 75 per cent. of the land is unproductive, and a further 20 per cent. is covered with forest, these deltaic strips of land at the heads of the fiords are very valuable for pasture for cattle and, where large, even for cultivation also. Where the slopes of the fiord are less steep there are small clumps of trees, and even isolated farms perch on perilous ledges on the rock, where a little soil may be found. Many picturesque falls tumble down the steep cliffs into the clear calm water of the fiords.

Off the coast lies a long line of small islands, mostly uninhabited except by sea-birds, and known as " skerries." These act as a fine natural breakwater and keep the



[*Photo: Norwegian State Railways*

A typical Norwegian Village on the Hardanger Fiord.
Note the wooden buildings, the pine trees and the ice-capped plateau above the steep-sided fiord.

water inside the fiords calm even while storms rage in the Atlantic outside. In normal times the calm water between the coast and the " skerry guard " is the main highway of trading vessels, and also the scene of the great cod and herring fisheries, which are so important to Norway. The Norwegians, learning to handle small boats while quite young in the safety of the fiords, take naturally to a seafaring life, and besides the thousands who gain their livelihood by fishing, thousands of others serve in the many Norwegian merchant ships that engage in a carrying trade for other countries as well as their own. Norwegian boats engage in the cod fisheries of the Grand Banks of Newfoundland, and also take part in the whale fisheries of the Antarctic Ocean. Amundsen, the discoverer of the South Pole, is only one of a long line of famous Norwegian sailors.

Forest Industries

These are next in importance after the fisheries. Receiving a heavy rainfall from the prevalent westerly winds off the Atlantic, and a mild winter climate for the same reason, trees thrive wherever they can find sufficient soil. Pine trees are most common. The short, swift rivers supply power for cutting up the logs into planks or converting smaller timber into wood-pulp and paper: they also make transport of timber to the coast easy. Wood is the most commonly used building material and fuel of the country, and the forests supply timber, wood-pulp and paper for export.

Minerals and Manufactures

The old rocks of the plateau contain valuable ores of copper, silver, nickel and iron, while both copper and sulphur are obtained from pyrites. The most valuable mines are in the lower country to the west of Oslo and in the Glommen Valley near Roros. The lack of coal for smelting is a great drawback to mineral development, but the discovery of new electrical processes is enabling Norway to put her abundant water power to good use in this connection. The production of chemical fertilizers and of calcium carbide, used in the generation of acetylene gas, are other important developments of electrical industry, while the use of electricity from water power in the important wood-pulp, paper and saw mills must not be overlooked. Some of the Norwegian railways are being electrified, while electric light and telephones are in common use all over the country.

Cities, Communications and Trade

The people of Norway now number rather less than three millions. They live mostly in small villages at the head of the fiords or on the lower land bordering the Skager Rak (Fig. 42).

Oslo, the capital, with about a tenth of the total population, is the only really large city and the chief seaport of the country. It stands at the head of a fiord which makes a fine harbour, but the land around it is much lower than in the case of the west-coast fiords. This has enabled the forest to be cleared to give land for agriculture and pasture, so that the city is centrally situated in the most thickly-peopled part of the country. It also lies at the southern end of the Glommen Valley, which provides the only natural route across the plateau and gives access by railway to the copper-mining district near *Roros*. A very difficult railway route to *Bergen* crosses the plateau, which is snow-covered for most of the year, while other lines lead to lumbering centres and granite quarries along the fiord, and into Sweden. Oslo exports the products of forests and mines and imports foodstuffs, machinery, oils, textiles and coal.

Bergen, the second city, lies near the entrance to the great Hardanger Fiord and is the chief centre of the fishing industries of the west coast. It is an important port of call for coastal vessels plying between the present capital and the old capital, *Trondhjem*. The latter is still the ecclesiastical capital. It is only a small town, but is beautifully situated near the entrance to its fiord.

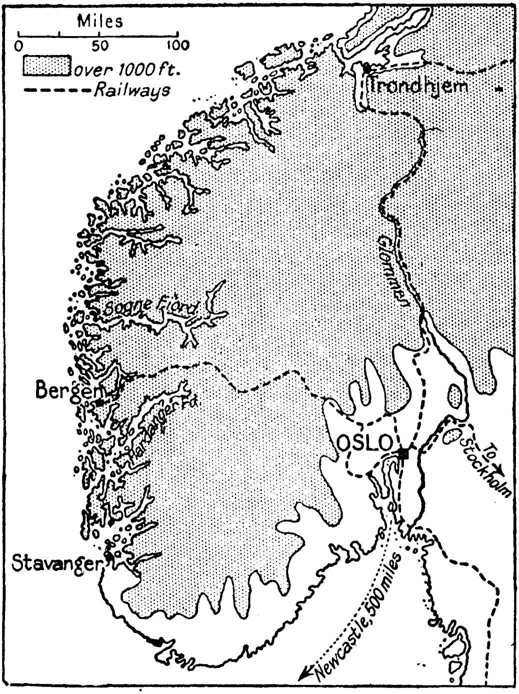


FIG. 42.—The four largest towns and chief railways of Norway.—Note the important Glommen Valley and the great length of the fiords.

It is a fishing port and has also timber and wood-pulp industries; while the railways, which connect it to Oslo via the Glommen Valley and to Sweden via the Storlsen Pass, bring down copper and sulphur for export. It is a tourist centre, giving access to the fiords, glaciers and skerries, and during the month of June the nights are never dark, as in its latitudes the sun does not sink far below the horizon at midsummer. Many tourists make the journey northward to *Hammerfest* to see the "midnight sun," for there the sun never sets from the middle of May to the end of July. In that region also may be seen the Lapps, who live a semi-nomadic life with their reindeer, and make the most of the long summer day to prepare for the long winter night.

SWEDEN

This is the largest and most populous of the Scandinavian countries, being about half as large again as the British Isles and having some six million inhabitants. It may be divided for study into three fairly distinct regions.

Northern Sweden

This consists of the eastern side of the Scandinavian Plateau, sloping fairly gently from the snowfields of Norway to the Gulf of Bothnia. The trend of the land is shown by the many parallel river courses, with long narrow moraine-dammed lakes filling their upper valleys. The winters of this region are long and severe, the rivers and the Gulf of Bothnia always freezing up for several months. Summers are warm and pleasant, and although there is naturally much less rain than in Norway there is enough to support large forests, which are the chief wealth of Sweden. The frozen snow-covered ground in winter assists the lumbering operations, while the rivers, which are too swift for navigation, are excellent for transporting the logs to the coast in summer and for supplying the power to the saw-mills. Much wood is made up into doors and window-frames for home use and for export, and about half the total exports of Sweden consist of the forest products—timber, pit-props, joinery, wood-pulp, paper, resin and wood-tar. All the small towns at the mouths of the rivers are timber ports.

In Lapland in the extreme north lies one of the most valuable iron fields in Europe, the ores being very pure. Owing to the absence of coal charcoal is used for smelting, but most of the ore is exported, and as the Gulf of Bothnia is useless for transport in winter an electric railway has been constructed from the mining centres near *Gellivara* across the mountains to *Narvik.* This port is on a Norwegian fiord, which, although well within the Arctic Circle, never freezes up. Much of this iron ore comes to Britain, especially to the iron-working centres of the east coast.

Central Sweden

This is the most important part of the country. Originally covered with forest, including deciduous as well as coniferous trees, much of the land has been cleared for pasture and agriculture. Good crops of the hardier cereals are grown, wheat is cultivated in favoured spots, and sugar beet, potatoes and fodder crops are largely grown. Much attention is given to dairy farming and considerable quantities of butter and cheese are exported. Between the Rivers Dal and Klar is the second ironfield in the country, the mines and steelworks of *Dannemora* being famous. Manganese, used in making fine steel, is also found near by, and there are mines of copper, lead, silver and zinc ores in Central Sweden. The application of new electrical methods of iron smelting will increase the importance of the Swedish metal industries, which are already the most important in the country; but at present coal is the second largest import of Sweden, being obtained chiefly from Britain and Germany. Sweden has a reputation for electrical machinery and instruments, which are exported to many parts of the world. Other manufacturing industries of Central Sweden, using hydro-electric power, are carried on in cotton and woollen mills, match factories, sugar refineries and chemical works; and most of these industries are carried on in small, clean towns. The two largest towns are situated at the ends of the great natural route that crosses Central Sweden by way of the great lakes Wener and Wetter, which are linked with each other and with the coast by the Göta Canal (Fig. 43).

Stockholm, built on islands at the entrance of Lake Malar, is the largest city and capital of the country. It controls the east-coast routes by rail and sea, and the great cross-country route by rail and canal to *Göteborg*, the second city and largest seaport of the country. *Upsala*, a few miles to the north, is an old capital and still the chief ecclesiastical and university city in the country. The freezing up of Lake Malar in winter tends to increase the importance of the ice-free port of Göteborg at the expense of Stockholm.

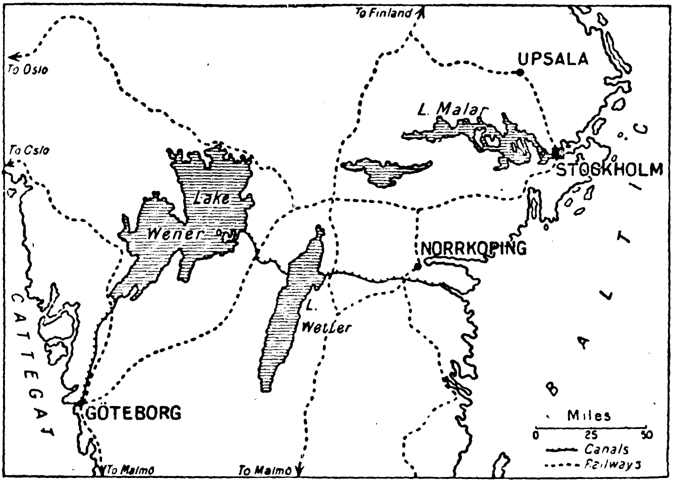


FIG. 43.—The busiest part of Sweden and the important routes across it.

Southern Sweden

This is an undulating country with a milder climate than the rest of Sweden owing to its latitude, its low altitude and its surrounding seas, which are seldom frozen for long periods. As its soil is fertile it is therefore chiefly devoted to agriculture and dairy-farming. Near *Helsingborg* is the only coalfield in the country, but its output is small in quantity and poor in quality. Most of the people of the region live in small farming villages, but there is one large town, *Malmö*, the third largest city in Sweden. It is a large exporter of butter and also a fishing port. It commands the narrow passage of the Sound, through which passes most of the traffic between the North Sea and the Baltic, and is linked with Denmark by a service of train-ferries. Railways link it with Stockholm and Göteborg.

DENMARK

This is one of the smallest and yet most prosperous countries in Europe. It is an undulating lowland which may be regarded as an isolated portion of the great central plain of Europe. Its climate is similar to that of Eastern England, with slightly greater extremes of temperature owing to the continental influence. Although its mean annual rainfall is only about 25 inches its atmosphere is usually moist, and fogs are fairly common. Thus the soil is better adapted for pasture than for agriculture, and the Danes have made their country the most famous dairy-farming country in the world. This country of over three and a half million people has almost the same number of cattle and of pigs, while the poultry number twenty millions. The animals are kept on small farms and the produce is collected by Co-operative Dairies, in which all the farmers are partners. By this means the most modern and efficient large-scale methods of making and packing butter, cheese and bacon have been adopted, and the dairy produce of

Denmark is exported under a Government guarantee of purity. The country has also a fine system of education for all, so that everyone understands the most modern and scientific methods of farming, and knows not only his own language but at least that of his most important customers—the British. There are no idlers and no real poverty in Denmark, which is probably the most democratic country in Europe.

Considerable crops of the hardier cereals, oats, barley and rye, are grown, and many root crops are cultivated as winter food for the cattle. The country also produces enough beet sugar for its needs. Denmark imports most of its wheat and also textiles, metals and machinery, but there are small factories for the manufacture of agricultural implements and dairy requisites. Power is mainly derived from coal imported from Britain in exchange for dairy produce, which forms four-fifths of the total exports of Denmark. The North Sea fisheries are very valuable and employ many men.

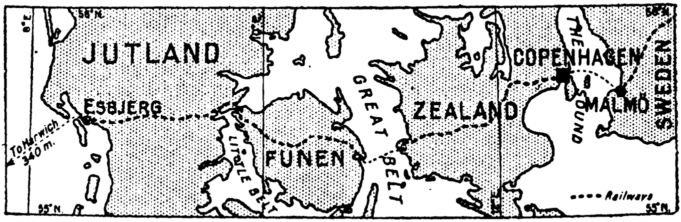
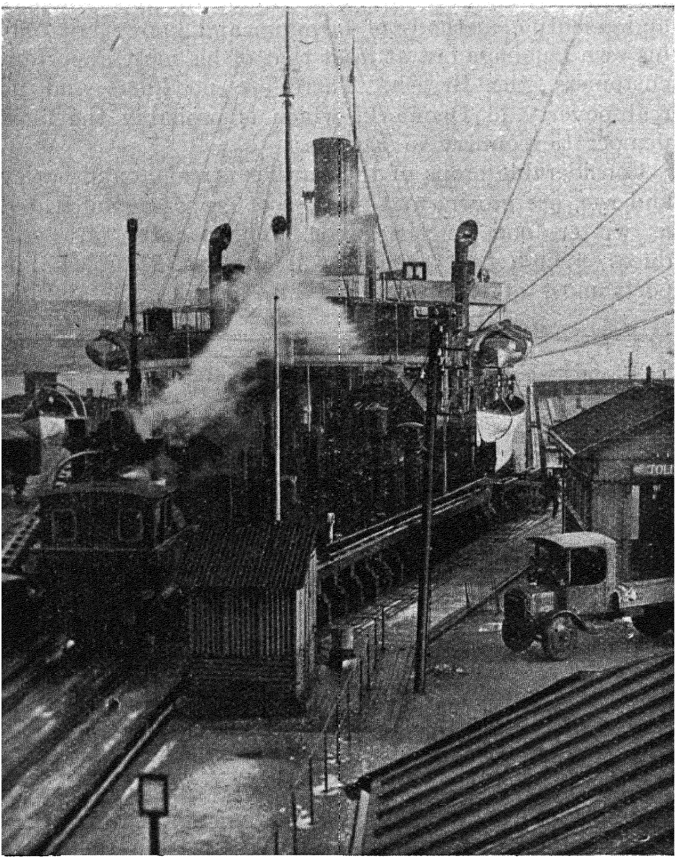


FIG. 44.—The route across Denmark by rail and train-ferries.

Copenhagen, the capital, is the only large town, and a sixth of the total population live there. Its name means "the merchant's haven," and it has a fine harbour between the island of Zealand, on which it is built, and a smaller island. Train-ferries connect all the Danish islands (Fig. 44), so that it is possible to travel from *Esbjerg*, the packet station for England, to Copenhagen, and even to Stockholm, without leaving the train. The merchants of Copenhagen for many years collected dues



[*Photo: Danish Travel Bureau*

A TYPICAL DANISH TRAIN-FERRY STEAMER.

from all shipping passing through the Sound between the North Sea and the Baltic, but since the construction of the alternative German route by the Kiel Canal it has become a free port. Like all the Scandinavian capitals it is a beautiful city, with fine streets and buildings, and an absence of slums.

Questions and Exercises

1. Compare and contrast the Iberian and the Scandinavian peninsulas.

2. Draw a rough section along the Hardanger Fiord as shown in Fig. 41. Notice that the depths shown in figures are in fathoms. Also draw a section across the fiord in its deepest part. What do the sections show?

3. In what other parts of the world are there "fiord" coasts? Compare their latitudes. Which of them are associated with fishing industries?

4. Compare and contrast Scandinavia with North-east Canada and Labrador with respect to physical features, climate and industries.

5. Why do fishing ports lie as far out to sea as possible, while commercial ports are situated as far inland as possible? What other type of seaport resembles the fishing ports in this respect? Give examples from Britain.

6. How would the path of the sun across the sky at Hammerfest on midsummer day differ from its path as seen from Britain? What is the greatest height to which it would rise on that day?

7. Compare the exports to Britain of the three Scandinavian countries, which were valued as follows for 1931 in millions of pounds:

Denmark: Bacon, 22; Butter, 16; Eggs, 5. Total, 47.
Norway: Fish, 2; Timber, 1; Paper, 0·5. Total, 9.
Sweden: Timber, 3; Wood Pulp, 3; Paper, 2; Bacon, 2; Butter, 1; Iron, 1. Total, 17.

8. Make a scale for Fig. 44. How far is it from Esbjerg to Copenhagen? What is the time difference between them?

CHAPTER XXI

GERMANY

This State grew to importance in the latter half of the nineteenth century with the union of a large number of independent kingdoms and principalities, after a successful war with France in 1870. Education, the scientific development of industries, and colonial expansion were all pushed forward with great vigour and determination by the new German Empire, and its material prosperity grew by leaps and bounds. The unwise ambition of its rulers then plunged it into the disastrous war of 1914–18, in which most of the countries of Europe, the British Empire, and later the United States of America, sided against Germany, with the result that all its overseas possessions were lost and its homeland reduced by a sixth. The rulers of the Empire and the States composing it abdicated or were deposed, and Germany was in 1919 declared a Republic. This régime was however superseded by a Revolution in 1933 and the country is now under the dictatorship of the leader of the National Socialist Party (Nazis). In spite of the great set-back of the war it still has a population of nearly 66 million people, who are well educated, industrious and enterprising, living in a country of great natural resources which have been very carefully developed; so that it is still one of the most important States in Europe. The country may be divided into the three fairly distinct regions of the Northern Plain, the Southern Highlands, and the Rhine Basin, which will be separately considered.

THE RHINE BASIN

Although the Rhine serves Switzerland, France and Holland, and its navigation is free to vessels of all nations, it is very largely a German river, and its basin is one of the most important parts of the country. Its upper course from Mt. St. Gotthard, through Lake Constance to Basel, has already been described in connection with Switzerland (Chapter XIX). The melting snows of the Alps provide the river with plenty of water in the summer months, and it is navigable for small barges and river steamers from Basel to Mannheim. This part of its course lies through a *Rift Valley*, and the river divides up into a number of courses over a flood plain, about ten miles wide, built up of alluvial soil brought down by the river. The floor of the Rift Valley is very fertile and produces good crops of wheat and fruit, including grapes. The plateau in which the Rift Valley has been let down, and the steep escarpments of the Vosges and the Black Forest which overlook it (Fig. 45), are well forested with pine trees. The *Black Forest* on the German side has been most carefully exploited as a source of timber, precautions being taken against forest fires, careless felling and neglect to plant new trees to replace those cut down. The Neckar and other tributaries are used to float down the logs, which are chained together in great rafts, to be towed down the Rhine to the treeless lowlands, where they are required for building purposes and for pit-props in the mines. The streams coming from the plateau also supply water power for the making of furniture, toys, clocks and musical instruments, for which the Black Forest region has long been famous. The extensive forest, with picturesque villages of high-roofed timbered houses, and the quaint costumes of the people, make the Black Forest a well-known tourist resort.

Stuttgart, the capital of Wurtemburg, is very beautifully situated at the navigation limit of the Neckar. It has a famous university, is the chief market town of the Black Forest industries, and is also on the Orient Express Route, which leaves France and crosses the Rhine near Strasbourg (see p. 231).

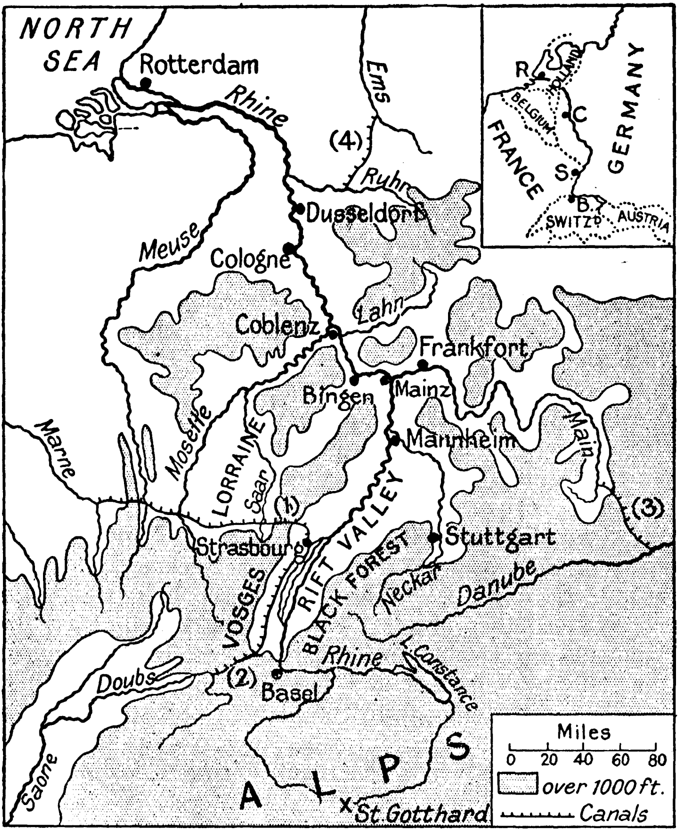


FIG. 45.—The Rhine Basin, showing chief towns and canal links with other important rivers.

Note the connections with
- (1) The Seine via the Marne;
- (2) The Rhone via the Doubs and the Saône
- (3) The Danube via the Main, and
- (4) The Ems via the Ruhr.

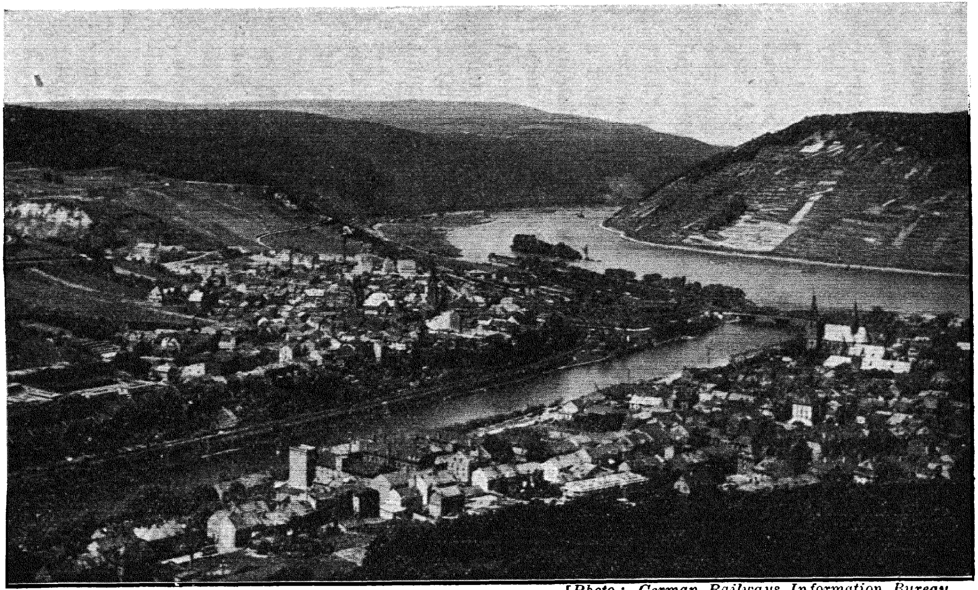
Inset shows the countries bordering the Rhine.

Mannheim, at the confluence of Rhine and Neckar, is a very important river port. It is the limit of navigation for the great 2,000-ton iron barges which are a feature of the Rhine traffic, and which bring coal, manufactured goods and imported wheat upstream for distribution by river and railway in the middle Rhine Valley and the adjoining highlands.

Mainz, at the confluence of the Main, is another important river port, and also a junction for the railways which follow both banks of the Rhine, and also the line to *Frankfort-on-Main*. The latter is a beautiful city of great historical interest and of modern importance as a railway junction, commercial and banking centre.

From Mainz to Coblenz the Rhine has excavated a deep, winding and picturesque gorge through the plateau. The steep slopes are terraced for the growth of vines, from which the famous Rhine wines are produced, and at every bend of the river the slopes are crowned with the ruins of some old castle, testifying to the importance of this route in ancient days. Road, railway and quaint straggling villages are crowded between the swift-flowing river and the foot of the slopes, and the whole of this part of the Rhine is made famous by many a German legend and song.

Coblenz lies at the confluence of the Moselle, whose valley is famous for its vineyards. The valuable iron ores from Lorraine are brought via this valley to be smelted in the Ruhr coalfield farther down-stream. Along the Saar tributary of the Moselle is a small coalfield, the produce of which was allotted to France as compensation for the destruction of her coal-mines during the Great War, and the region was placed under the control of the League of Nations for fifteen years. A plebiscite of the Saar region in 1935 resulted in an overwhelming majority voting in favour of the area returning to Germany, which will have to compensate France for the return of the coal mines. The main line from Paris to



[*Photo: German Railways Information Bureau*

THE SOUTHERN ENTRANCE TO THE RHINE GORGE AT BINGEN WHICH LIES AT THE CONFLUENCE OF THE NAHR WITH THE MAIN RIVER.

Note the famous "Mouse Tower" at the end of the island in the Rhine and the terraced vineyards on the plateau slopes.

Berlin here crosses the Rhine and follows the Lahn Valley, in which iron and manganese ores are mined. Below Coblenz the Rhine Valley opens out and leaving the volcanic hills of the Drachenfels on the right bank the river passes the famous university city of *Bonn.*

Cologne, or Köln, is situated where the great north-and-south route of the Rhine Valley crosses the important east-and-west route across the plain of Central Europe at the foot of the highlands. It was founded as a "colonia" or outpost of the Roman Empire, and has been an important city ever since. The great cathedral, with its tall twin spires forming a landmark for many miles around, is one of the finest Gothic structures in the world. As the limit of navigation on the Rhine for ocean-going vessels the city has added importance as a commercial centre, while, having easy access to the Ruhr coalfield, it has developed miscellaneous manufactures, so that it is now the largest city of the Rhineland and the third largest in the country.

The Ruhr Coalfield

The Rhine then flows through the busiest and most densely-peopled area of Germany, where, in a coalfield about as large as that of Lancashire, live as many people as in Lancashire, Yorkshire and the adjoining counties of the English Midlands together. For in the valley of the little Ruhr tributary is the richest coalfield in Germany, with an output of coal greater than that of any other single coalfield in Europe (Fig. 46). Much of the coal is exported by rail to other parts of Europe, and large quantities are converted into coke, used for smelting the iron ores from Lorraine, which before the Great War was in the possession of Germany, but has now reverted to France. The steel works of *Essen* and *Dortmund* and their products are world-famous. The coalfield also has great textile industries at *Barmen* and *Elberfeld*, while there are chemical and glass works at *Dusseldorf.* This last town and *Duisburg-Ruhrort* (Ruhr-mouth) are the great river ports of the coalfield, exporting the coal, iron, steel goods, textiles and chemical products, and importing timber, iron ore, cotton, wool and foodstuffs to feed the industries and the people of the region.

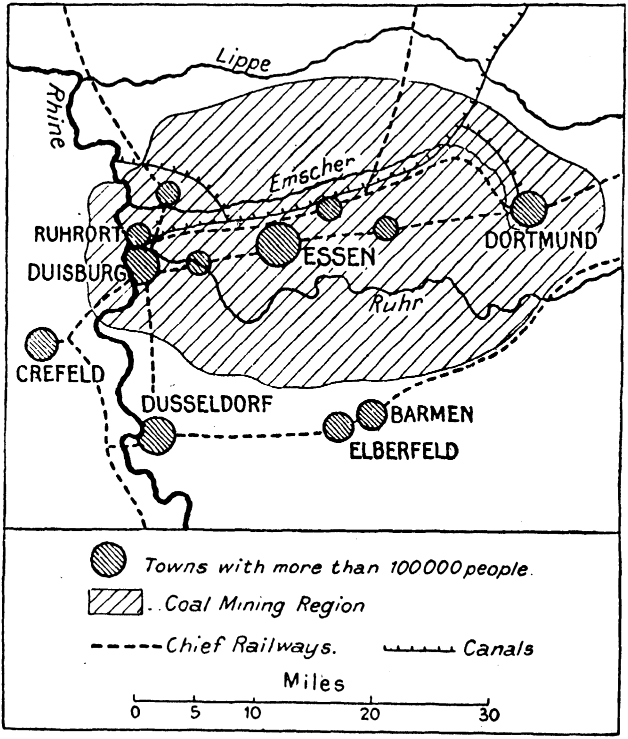


FIG. 46.—The Ruhr Coalfield.

After the Rhine leaves the Ruhr coalfield it meanders slowly through the plain, dividing up into several courses through the great delta it has built up in the North Sea. This delta is an important part of Holland, of which we shall read later. The river, as we have seen, is a splendid highway for traffic. Lying in a region where there is considerable rainfall at all seasons, and receiving extra supplies from the melting snows of the Alps in the summer, it always has a good flow of water, and although the middle and upper course usually freeze over for a short time in winter, navigation is seldom seriously interrupted. Its valley has also facilitated the construction of roads and railways across the highlands, and these now carry more traffic than the river itself.

THE SOUTHERN HIGHLANDS

This is the region between the Main and the Alps. It roughly corresponds physically with the upper part of the Danube Basin and politically with the State of Bavaria. The whole region is over a thousand feet above sea-level, and as it is about five hundred miles from the sea the winters are cold but not severe, while the elevation tends to temper the heat of summer. The region receives a moderate and well-distributed rainfall, and the higher ridges are wet enough to be well forested except where made of porous limestone, as in the Swabian Jura, which are good sheep pastures.

The valleys of the Danube and its tributaries are very fertile and produce good crops of corn, fruit and hops. The southern tributaries, Lech, Isar and Inn, coming from the Alps, have been harnessed to supply the railways and local industries with electrical power.

Munich, the capital of Bavaria, is the largest city, having more than half a million people. It is on the Isar, at the point where the important north-and-south route from Berlin to Rome, via the Brenner Pass, crosses the Orient Express Route from Paris to Istanbul. It is a beautiful city, combining ancient picturesqueness with modern conveniences, and has wonderful art galleries and schools. It is famous for its breweries. which use up locally grown barley and hops, and abundant supplies of pure water.

Nuremberg is another interesting mediæval town which has also modern importance. It has a good defensive rock site on a tributary of the Main and on the Rhine-Danube Canal; and it is at the junction of the Berlin-Basel route with that from Ostend to Vienna via Cologne and Frankfort. It is the centre of the ancient Bavarian toy-making industry, and has modern importance for the manufacture of electrical and other scientific apparatus.

THE NORTHERN PLAIN

This is far more extensive than the other two regions and contains about two-thirds of the total population of Germany. It consists of three belts of country roughly parallel to the Baltic coast. The coastal plain is narrow and broken by a series of shallow bays. Many of these have become almost enclosed lagoons called " haffs " owing to the drifting across them of silt brought down by the rivers by a current which flows eastward under the influence of the prevalent westerly winds. The long sand-spits enclosing the haffs are called " nehrungs," and their formation has been aided by the fact that the Baltic Sea is practically tideless.

Behind the narrow coast plain lies a line of low hills called the Baltic Heights. These are really the great terminal moraine of the Ice Sheet, which covered Northern Europe in the Great Ice Age. They are interspersed with innumerable small lakes. The hills have been cleared of the forests of beech and pine which once covered them, and are now given up to pasturing sheep and the cultivation of rye and potatoes.

South of the Baltic Heights and parallel with them, a shallow trough runs right across the country. It was probably formed by the water running from the southern end of the great Ice Sheet, and is now occupied by the east-and-west flowing tributaries of the great rivers Vistula, Oder, Elbe and Weser, which cross the plain from the southern highlands to the Baltic and North Seas (Fig 47). This formation has greatly facilitated the construction of canals linking up the river systems, and these canals have been of great importance in the economic development of Germany. Since the retreat of the Ice Sheet uncovered the Baltic Sea several of the short rivers flowing from the Baltic Heights have eaten back their courses into this trough and "captured" part of its drainage. This accounts for the sharp bends on the Vistula and the Oder, and it is interesting to note that the latter river was probably at one time linked up directly with the Elbe along the present course of the Spree. Road and railway actually follow this natural route from Silesia to Hamburg.

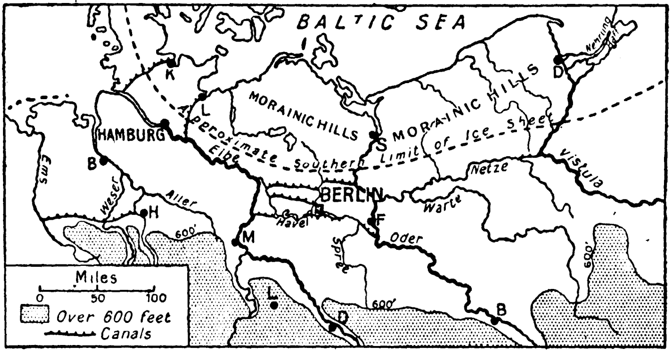


FIG. 47.—The Natural and Artificial Waterways of the North German Plain.—Notice

(i) The great east and west trough from the Vistula to the Elbe, south of the line of the old ice-sheet;
(ii) The drainage to the trough and to the Baltic of the many small rivers rising in the morainic hills, suggesting the way in which the lower courses of the Oder and Vistula were formed;
(iii) The convergence of the routes on Hamburg, the great port of the plain;
(iv) The central position of Berlin.

South of the trough lies the broadest part of the plain, much of which is covered with areas of fertile boulder clay, another result of ancient ice action. There are, however, considerable patches of rather infertile sandy soil, and along the North Sea much fenland has been reclaimed and protected from inundation by dykes. The whole of this area was at one time part of the great temperate forest belt of Eurasia, and where the soil is poor considerable areas of forest still remain. But most of the land has been cleared for pasture or cultivation; and by scientific farming, including the extensive use of chemical manures, even poor land has been made very productive. The grain most extensively cultivated, owing to the poor soil, is rye, and the coarse bread made from it is the staple food of the people. Oats, too, are extensively grown, and good crops of wheat and barley are raised. Sugar beet, potatoes and root-crops for cattle feeding are also important. It may be noticed that the beet-sugar industry was a German invention, dating from the time when the Napoleonic wars prevented the Germans from obtaining cane sugar from British possessions in the West Indies. Large herds of cattle are reared on the plain, and the waste products of the dairies and the beet-sugar factories enable huge numbers of pigs to be kept.

Cities and Communications

As in most of the great European Plain and in Britain the earliest centres grew up at favourable spots in forest clearings. Where soil was better and communication by river and road more easy, and possibilities of defence existed, market towns developed. There, industries concerned with the making of clothing, boots and tools gradually sprang up, and the towns more suitably situated for gathering raw materials and obtaining supplies of power grew still bigger, while seaports grew up for the interchange of products with lands overseas.

Berlin, the most centrally situated city of the plain, is the capital of Germany, and with its immediate suburbs houses over four million people. Originally the capital of the small state of Brandenburg, which later expanded into Prussia, which in 1871 became the controlling state of the Empire, the city has gradually increased its importance. It has since been made the focus of the railway network of the country and developed large manufacturing industries of all kinds. By canals from the little River Spree, on an island in which the city began, it has also water connection with the whole country. The city is well laid out with handsome streets and public buildings.

Hamburg, the second largest city, is the chief seaport of the country. It was founded on high ground between the Elbe and a small tributary, and at the limit of ocean-going navigation up the river. Its harbour is never frozen, is accessible for big ships at all states of the tide, and has been remarkably well equipped with docks, wharves and warehouses, so that it is one of the finest ports in the world. The Elbe and its connecting canals, together with railways from all over the country, converge upon it, bringing manufactured goods of all kinds for export, and allowing of the distribution of its imports of foodstuffs and raw materials to all parts of Germany, Czecho-Slovakia, and Austria. The construction of the Kiel Canal has increased its trade with Baltic ports. It also has a big shipbuilding industry and has built some of the largest and finest liners in the world. Its outport, Cuxhaven, nearer the mouth of the Elbe, shares the fishing industry of the North Sea.

Magdeburg is an important city of the middle Elbe. The great bend of the river and islands in it fixed the site of the town. Its importance has been increased by the development of huge deposits of salt and potash in its neighbourhood. These have become the basis of great chemical and glass industries, and it is also famous for the manufacture of scientific apparatus.

Dresden, with over half a million people, is the capital of Saxony, and grew up at the point where the Elbe emerges from its gorge in the Erz Gebirge on to the plain. The small Saxony coalfield supplies power for its textile and porcelain industries, the former dependent upon the famous Saxon sheep and the latter on kaolin obtained from decayed granite from the mountains. Most of the Dresden china is now made at *Meissen.* Dresden is another of the many beautiful German cities with famous art galleries and museums, and it also manufactures musical instruments.

Leipzig is another even more famous Saxon town, noted for its great commercial fairs and fur market, also for its University, Schools of Music, and enormous book-publishing trade.

Breslau, the capital of Silesia, grew up in a fertile district near the upper Oder. Sheep kept on the Riesen Gebirge and coal from the Silesian coalfield gave it an important woollen industry; it also manufactures beet sugar. Barges carrying coal, iron and steel navigate the Oder as far as *Frankfort,* near which much traffic passes by canal to the Elbe. Rafts of timber proceed down-stream to *Stettin* at the mouth of the river, where there are saw-mills and shipyards, but this, like all Baltic ports, freezes up for several weeks each winter.

In the Weser Basin *Hanover* is the largest city. An old market town and State capital, it has increased modern importance due to the working of local chemical deposits and as a railway junction for important lines leading to Berlin, Frankfort, and the Hook of Holland. *Bremen,* at the mouth of the Weser, is a port with considerable American trade, but is overshadowed by Hamburg, which has a better harbour and dock accommodation, and easier communication with all parts of the plain.

QUESTIONS AND EXERCISES

1. Name the countries which border Germany. What forms the frontier in each case?

2. Give an account of the trade which passes up and down the

Rhine, mentioning the ports at which various cargoes are shipped and unloaded.

3. When British patrol boats left the Rhine in 1926 they came to Portsmouth via Paris. What route did they follow?

4. Draw sketch-maps illustrating geographical reasons for the growth of Germany's five largest towns, viz.: Berlin, Hamburg, Cologne, Munich, Leipzig.

5. The mean January and July temperature and mean seasonal rainfall of Berlin and Munich are as follows. Point out and explain any differences you may note. Also compare the climate of each with that of your own district.

Berlin: 33° F., 67° F. 5 in., 7, 6, 5,
Munich: 28° F., 64° F. 9 in., 14, 8, 5.

6. Compare the Ruhr coalfield with any one of the British coalfields as to position, extent and industries.

7. What are the advantages and disadvantages of a river as a natural frontier?

8. Compare the results of the Ice Age in Europe with those in North America.

9. What are Germany's claims to be considered as one of the Great Powers" of Europe?

10. How can traffic reach Breslau from Hamburg by water?

CHAPTER XXII

HOLLAND

This is another of the small yet prosperous countries of Europe. Although at various times in its history it has belonged to Romans, French, Germans and Spaniards, the Dutch people have always maintained an independent spirit, and the present Kingdom is the centre of a considerable empire built up by the enterprise of its seamen in the seventeenth century.

PHYSICAL FEATURES

The name of the country, meaning "hollow land," is very appropriate, as a quarter of it is below sea-level. Curiously this is the most valuable part of the country and contains most of the larger towns (Fig. 48). This portion consists mainly of the joint delta of the Rhine, Maas (or Meuse), and Scheldt Rivers. These deltas

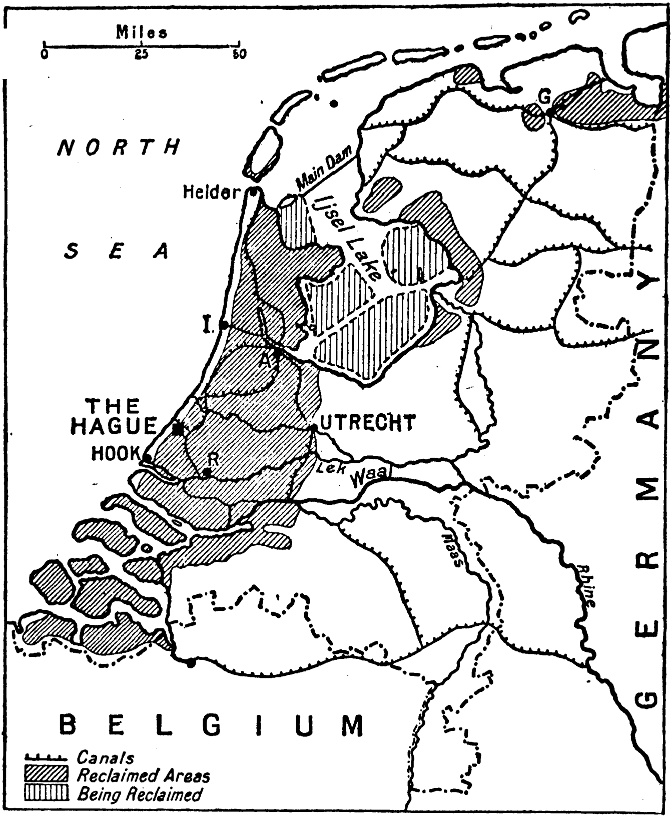


FIG 48.—The Reclaimed Areas, chief navigable Waterways and largest cities of Holland.

were built up in a part of the North Sea where two tidal currents, one from the north and one from the south, meet and neutralize each other, giving rise to "slack" water, in which the silt brought down by the rivers was deposited. The Dutch people have built great dams or "dykes" along the coast and the river banks, and by pumping out the water from the enclosed land have made the very fertile and productive "polders" behind the dykes. Along the coast a line of dunes, formed by the steady blowing up of sand from the shore by the prevalent westerly winds, have helped the Dutchmen in the constant war with the sea, but the greatest vigilance is always necessary to guard against the bursting of the dykes in times of flood. This work has helped to make the Dutch a hard-working, cautious and united people. The Rhine takes several courses through its reclaimed delta, that called the Waal being the deepest and best for navigation.

Another extensive reclamation scheme is being carried out at the present time in the Zuyder Zee area. Until the thirteenth century this was a large shallow fresh-water lake, but then the sea broke through the barrier of dunes, now represented by the Frisian Islands, and converted it into a shallow sea. The scheme upon which the Dutch are now working will add nearly a thousand square miles of fertile land to their country. The small remaining portion of the former Zuyder Zee is now known as Ijsel Lake.

Eastern Holland, which lies above sea-level, unfortunately consists of poor, sandy and gravelly soil, and much labour and manuring have been necessary to make it productive. In the south-east, along the Maas, the land is higher, and the older rocks contain small supplies of coal, which are however insufficient for the needs of the country.

CLIMATE AND PRODUCTIONS

The prevalent westerly winds have already been mentioned. These have a moderating influence on the temperature, as they come from a sea which is warmer than the land in winter and cooler in summer. But the influence of the adjoining continent and outflowing easterly winds make the winter temperatures of Holland lower than in the corresponding region of East Anglia, so that the shallow waterways of Holland are more frequently frozen up, although seldom for long periods. Owing to the flatness of the country the winds have been utilized by the Dutch to drive the many windmills, which are such a characteristic feature of a Dutch landscape, and which are used to work the pumps that drain the polders or to grind corn. As in East Anglia, and for similar reasons, rainfall is not very heavy, but the 25 to 30 inches received annually are sufficient for the growth of corn crops and to keep green the pastures of the polders.

About three-quarters of the whole country is productive, and about half of this is devoted to cattle pasture, so that Holland is a great dairy-farming country, able to supply its own needs for milk, butter and cheese, with a considerable surplus for export. The black and white Frisian cattle are some of the finest dairy animals in the world, and the round Dutch cheeses produced at Edam and other centres around the former Zuider Zee are well known. The saltish grass of the drained polders is an excellent food for dairy cattle. Sheep are reared in the drier eastern districts.

Oats and rye are the chief cereal crops, but wheat and barley are also grown. These are used chiefly for food, but gin, an alcoholic liquor, is distilled from rye and flavoured with juniper berries. Root-crops are grown as winter food for the cattle, and the sugar beet is also cultivated to supply home needs and a considerable export of beet sugar. Large quantities of potatoes are grown, especially on the lighter soils, and in the south-east flax is cultivated. The famous Dutch bulb industry flourishes near Haarlem, where the poor, sandy soil of the dunes can be fertilized by the heavy soil from the polders. There is a large export of both bulbs and cut flowers, especially to Britain. Market-gardening is important near the larger towns.

Fishing is still an important industry along the shores of the North Sea and the Ijsel Lake, and as in the case of Britain, the fishing industry has been the basis of the seamanship and the overseas expansion of the Dutch. The Dutch sailors of the sixteenth and seventeenth centuries founded colonies in America, South Africa and the East Indies, and with easy access to Central Europe by way of the Rhine found a ready market for the spices and other luxuries brought from tropical lands. The careful development of their colonies, especially in the East Indies, has also led to a large modern importation of coffee, cocoa, oil seeds, tobacco and petroleum, and industries based upon them.

Owing to a lack of minerals and sources of power manufacturing industries are not very important in Holland, except in the seaports, where coal and raw materials can be easily imported. Suitable local clay has led to the tile and pottery industry of Delft.

COMMUNICATIONS

The most characteristic highways of Holland are the canals, of which there are more than 2,000 miles. The level nature of the land and abundance of water have helped in their construction, and in the lower portions of the country they run like the rivers between dykes above the level of the polders. Small, clean and brightly decorated barges, which are the only homes of the people who attend them, are the chief means of transport on these canals. Petrol engines are now superseding direct horse-power to move the barges. On the Rhine, which is the most important commercial highway of the country, and on the larger ship canals, such as that from Amsterdam to the North Sea, steam tugs are used to draw the big lighters.

Road building is not easy in a country like Holland, and in the lower part the roads run along the top of the dykes. Narrow carts and bicycles are the chief vehicles, and not many of the roads are suitable for motor traffic. The road surface is often made of bricks, which also form the chief house-building material, as hard stone and timber are both scarce.

In spite of difficulties Holland has a fair network of railways, all the larger towns being connected, and the lines from the packet stations of Flushing and Hook of Holland into Central Europe are of international importance.

The Dutch have developed civil aviation rather more than most countries, and in addition to routes to many European cities, e.g. London, Brussels, Paris, Hamburg and Berlin, they have established a regular service via the Eastern Mediterranean, India and Malay to their colonies in the East Indies, with a connection to Australia.

POPULATION AND CITIES

The Dutch are a people closely related to the northern races of Europe, but rather shorter and stouter in build. Their language is closely akin to German, and the Frisian dialect is not unlike English. In religion they are Protestant. They are famous for the neatness and cleanliness of their houses and towns and for a quiet independence of thought and speech. Their long struggles with the sea have made them industrious, persevering and well organized. About half of the eight million people live in small villages chiefly lying along the canals; but a quarter of the total population are crowded into the four largest towns, where they are employed in industry and commerce. The quaint costumes shown in pictures of Dutch life are still to be seen in the coast towns and islands of the Zuider Zee.

Amsterdam is the largest city and commercial capital of the country. It grew up on a patch of dry ground, defended by the Zuider Zee in front and marshes behind, and at a time before the distributaries of the Rhine had been artificially deepened. It became the great market for the spices, sugar, tobacco and coffee brought home from Dutch Guiana and the East Indies in the seventeenth century, and when diamonds were discovered in the old Dutch colony of South Africa it became famous for its diamond-cutters, who still maintain their reputation. With the increasing size of modern ships canals were cut to the deeper waters of the North Sea at *Ijmuiden* and *Helder*, and it has barge canals to all parts of the country. The present city is almost entirely built upon piles driven deep into the sandy loam and with its many intersecting canals resembles Venice, although lacking the brightness and colour of the Mediterranean city. It was the home of the famous Dutch painter Rembrandt, and still cherishes many of his famous masterpieces.

Rotterdam, the second city, with over half a million people, is the chief seaport. It lies on the Lek distributary of the Rhine, and has wharves and docks capable of accommodating the largest vessels. It is a port not only for Holland but also for Germany and Switzerland, and has an enormous transit trade, so that cereals, coal, iron ore, iron and steel goods, petroleum and textiles figure amongst both the imports and exports of Rotterdam. Canals converge upon it from all over Holland, bringing down dairy produce for export. *Hook of Holland*, at the mouth of the river, is its outpost for mails and passenger traffic, and also for such perishable goods as flowers and vegetables sent by the packet steamers to Harwich, an eight hours' journey.

The Hague, which is the political capital and royal residence, is only the third city in size. It is centrally situated near the coast and has a dry, healthy site among the sand dunes. International Conferences are often held at the Hague Peace Palace. *Haarlem* and *Leiden* are similarly situated, the latter where the Old Rhine breaks through the sand dunes. The former is famous for its tulip-growing, and the latter for its scientific University.

Utrecht, the fourth city of Holland, is at the edge of the lowland and the junction of railways and canals to all parts. It is the chief military centre and controls the defence scheme of Western Holland, based on inundation of a wide strip of the country.

Groningen is the market centre of an important agricultural and pastoral area in the north, and is a focus of railway and canal routes.

QUESTIONS AND EXERCISES

1. In what ways has the geography of Holland influenced its history ?
2. Compare and contrast Holland and Switzerland.
3. The imports and exports of Holland in 1932 were as follows (values in millions of pounds) :

Imports : Textiles, 16 ; Cereals, 12 ; Iron and Steel, 6 5 ; Coal, 5 3 ; Wood, 3·8 ; Petroleum, 3·6 ; Oil Seeds, 3. Total, 108.

Exports : Textiles, 6 ; Coal, 5 ; Cheese, 8 ; Manures, 2·6 ; Paper, 2 3 ; Butter, 1·5. Total, 71.

Why do textiles and coal figure in both lists ?

4. The total tonnage of shipping entering and leaving Rotterdam is about four times that for Amsterdam. Why is this ?
5. How would you spend a fortnight's holiday in Holland ?

CHAPTER XXIII

BELGIUM

This is the most densely-peopled country in Europe, for although it is only about twice as large as Yorkshire it has over eight million people. It, like Holland, has been ruled by various European peoples at different times and has suffered very much from their rivalries, especially those of the French and Germans. These have in turn marched their destructive armies across it; and although after Belgium declared its independence of Holland in 1831 its neutrality was guaranteed by the "great Powers" of Europe, it was one of the worst sufferers in the Great War of 1914–18, when Germany wrongly thought that the easiest way to attack France would be across the plains of Belgium.

The country may be conveniently divided for study into the plains of Flanders and Brabant in the north and the highlands of the south-east. The former is mainly an agricultural region inhabited by the Flemings, a people akin to the Dutch and speaking a similar language; while the latter is mainly a mining and manufacturing region inhabited by the Walloons, who are similar in race and language to the people of Northern France. There is much rivalry between the Flemings and the Walloons, but both peoples are professed Roman Catholics, and their struggles against common foes have held them together.

THE PLAINS OF FLANDERS AND BRABANT

This is a fertile region of clay and loamy soil in the valleys of the Scheldt and its tributaries. The North Sea coast, like that of Holland, is low and bordered by natural sand dunes and artificial dykes which protect the coastal plain from becoming flooded. The Campine region on the Dutch border is a rather sandy and unfertile region of heathland. The climate is similar to that of Eastern England, with slightly greater extremes of temperature, and the land has been intensively cultivated by the industrious Flemings. The crops are similar to those of Holland, rye and oats being the chief cereals, although wheat and barley are grown. The Flemish cart-horses are famous and account for oats being the chief crop of the land. Potatoes are an important food-crop, and the sugar beet is being increasingly grown. Flax has always been an important crop in Flanders, and the water of the little River Lys is said to be especially fine for "retting" the stems from which the linen fibres are obtained. Dairy-farming is not so extensively carried on as in Holland.

Flanders contained many wealthy market towns in the Middle Ages, and the workmen of those days, encouraged by their Trade Guilds, produced fine textile fabrics, furniture, houses, churches and public buildings. Such are the Cathedral of Antwerp, the town halls of Brussels and Louvain, the Belfry of Bruges, and the old Cloth Hall of Ypres, which was reduced to ruins in the Great War. Many Flemish artists of this period have also become world-famous, notably the Van Eycks and Rubens, many of whose masterpieces may be seen in the cathedrals and art galleries of Belgium. The Flemish women have always been famous lace-makers, and it will be remembered that Flemish weavers introduced their craft to East Anglia in the Middle Ages. In those days Bruges and Ypres were both seaports, but their harbours have since been silted up.

Brussels, in the centre of the plain, is the largest city and capital of the country. It grew up on islands in the Senne, and has now expanded to both banks of the river and become a city of three-quarters of a million people, with many miscellaneous industries serving their needs. State railways have been built to connect it with the port of Antwerp, the packet station and holiday resort of Ostend, the coalfield of Northern France, the mining and industrial region of Southern Belgium, and the Rhine Valley. The Senne has also been deepened to allow small steamers to enter the city from the sea, and a canal links it with the coalfield around Charleroi.

Antwerp, the second city in size, is the chief seaport in Belgium and one of the largest in Europe. The estuary of the Scheldt has been deepened, and large wharves and docks have been constructed along its shores. The

Scheldt connects it with the plains of Flanders, and canals capable of carrying large barges connect it with the Rhine and the Ruhr coalfield, to which it is the nearest seaport. For both these regions it imports wool and raw cotton to feed their textile industries, and corn and meat for those engaged in them. Rubber and ivory from the Belgian Congo are also among its imports. Its chief exports are the iron and steel goods produced on the Belgian and Ruhr coalfields, and the linen and other textile fabrics of Flanders.

Ghent (or *Gand*), the third town, is much smaller than Brussels or Antwerp, but is one of the mediæval towns which has managed to retain its importance, while others, like Bruges, Louvain and Mechlin, have declined. Its favourable position at the confluence of the Scheldt and the Lys, and of canals to the Scheldt estuary and to Zeebrugge on the North Sea, have enabled it to keep pace with the times. It has added an important cotton industry to its long-famous linen trade, which was based on the local supplies of flax and the excellence of the Lys water for the industry. Flax is now imported from Russia and cotton from the United States by way of the canals. In the neighbourhood of the city are extensive market-gardens and floral nurseries, which send their produce to the English markets direct by rail, via the train-ferry between Zeebrugge and Harwich.

Many of the smaller towns of Flanders attract visitors on account of their quaint mediæval architecture; and the scenes of the terrible battles that were fought in this region in the last Great War make it of special interest to many British people.

SOUTHERN BELGIUM

This is mainly occupied by the ancient highlands known as the Ardennes Plateau. The hard rocks and heavy rainfall make the region rather infertile, but much of it is covered with valuable forest, while on the northern slopes, where the rock consists of more porous limestone, there are valuable sheep pastures. The Meuse and other smaller rivers have cut deep, winding and picturesque gorges through the plateau, while large caves with stalactites and stalagmites have been excavated in the limestone. At Spa there are mineral springs which have made it a famous inland health resort. The Ardennes have thus become well known by European tourists.

The most important part of Southern Belgium is, however, the valley followed by the Meuse and its tributary the Sambre, at the northern foot of the highlands (Fig. 49). In the old hard rocks are valuable supplies of iron, zinc and lead ores, while underlying the softer rocks of the valley are rich coal seams which make mining and smelting important industries of the region. The coal, however, lies rather deep and the seams have been much folded and faulted, so that mining is rather difficult. The richest part of the coal-mining area is around *Charleroi*, while there are also mines near *Mons* and between *Namur* and *Liège.* The many blast furnaces of this region obtain iron ore from Luxembourg and the Lorraine district of France, and there are large engineering works all along the valley. Sand is brought southward by canals from the Campine district and used in the famous glass works of Charleroi and Liège, while the latter town has also important zinc and chemical industries. *Verviers* uses the specially good water of local streams for wool-washing and has woollen factories using imported as well as local wool. It also exports washed wool to the Ruhr coalfield. *Liège* has become the largest town of the region and is the fourth city of Belgium. The rail route which passes through it, following the Sambre-Meuse Valley, is the main line from Paris to Berlin, and one of the most important commercial routes in Europe.

Questions and Exercises

1. Compare and contrast Belgium with Holland.

2. Mention periods in history when British soldiers have fought in Belgium. For and against whom were they fighting in each case? Why has Belgium suffered from so much fighting?

3. Draw a sketch-map to illustrate reasons for the importance of Brussels and Antwerp.

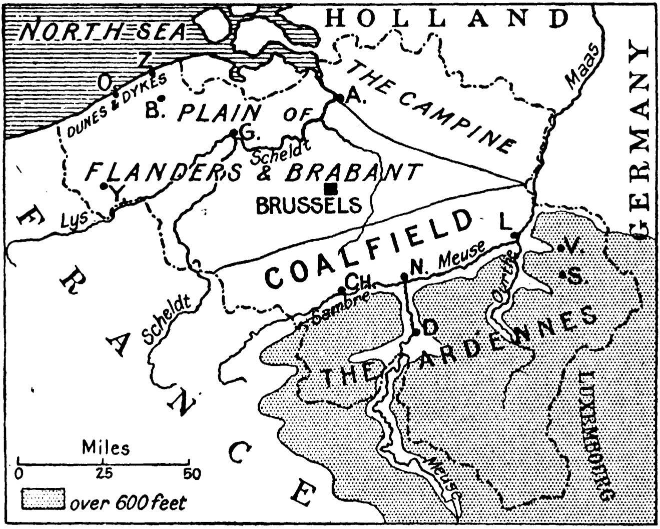


Fig. 49.—The Natural Regions of Belgium.

4. In 1931 Belgium's best customers in order were the United Kingdom, France, Holland, and Germany; while her chief sources of imports were France, Germany, Holland, United States, and the United Kingdom. Comment on the position of the United Kingdom and U.S.A. in these two lists and explain as far as you can.

5. In travelling by rail through Belgium to Germany, watches are altered at Verviers by one hour. In which direction and why?

CHAPTER XXIV

FRANCE

Our nearest foreign neighbour is a country four times as large as England and Wales, but it has only about the same number of people, rather more than 40 million. It enjoys a very favourable position, for it lies between the Mediterranean Sea, which was the centre of many ancient civilizations, and the Atlantic Ocean, around which lie most of the important countries of the modern world. It has thus benefited, and still benefits, from its intercourse with both. Climatically too its situation is excellent, for it lies almost midway between Pole and Equator, and enjoys the temperate, equable climate which is the most favourable to human development.

Like our own country it contains a number of fairly distinct regions (Fig. 50), each with its own characteristic scenery, industries and development, but these are all united under one central government and contribute their own special share to the general good. Like Britain, too, the land has gained by a mixture of peoples and ideas throughout the course of history, the French people being a mixture of the Northern, Alpine and Mediterranean branches of the White Race ; and although there is a more definite standard form of the French language than there is of the English, many different dialects can be recognized as in our own country.

Politically France is a Republic governed by two elected Houses of Parliament, who every seven years jointly elect the President. For local government, France is divided into ninety Departments, and at the head of each of these is a Prefect who is an officer of the central Government. Each Department consists of a large number of communes whose local affairs are controlled by elected municipal councils, each of which chooses the Mayor of its commune.

Some of the more distinct natural regions of France will now be separately considered.

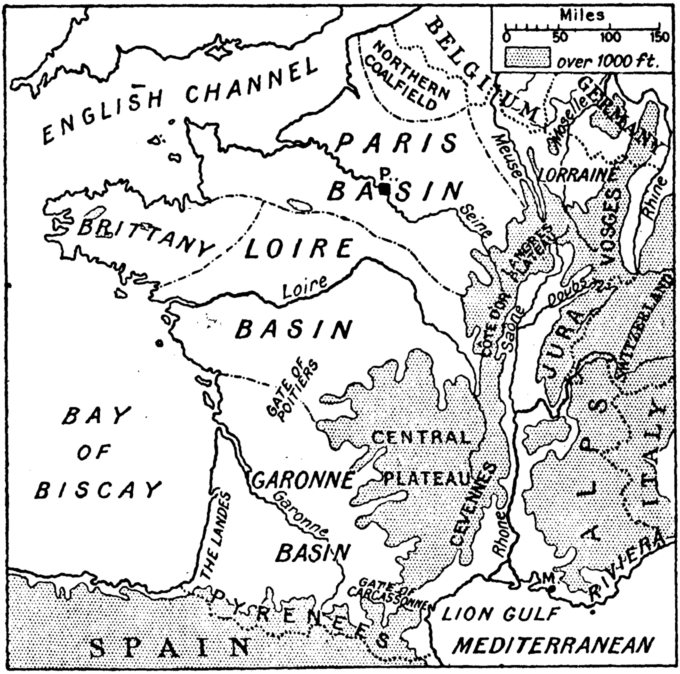


FIG. 50.—The Natural Regions of France.

THE PARIS BASIN

This lowland, which practically corresponds with the basin of the River Seine, has always been important on account of its fertility and the ease with which the other regions of the country can be approached from it. The Seine can be compared with the Thames. It rises in the Côte d'Or, hills of oolitic limestone similar to the Cotswolds, flows across the fertile clay vales of Champagne, similar to the English vales of Oxford and Aylesbury, breaks through a line of chalk downs corresponding to the Chilterns, and enters the Paris Basin which, like the London Basin, is largely composed of clays. But the chalk which sinks below the Paris Basin again comes to the surface, and the Seine has cut a further winding gap through the chalk before it enters La Manche, as the French call our English Channel (see Fig. 51). Notice how the chief tributaries of the Seine, the Oise, Marne, etc., all seem to converge on the central part of the Basin, marking out the site of Paris as a nodal point. This convergence is however responsible for the floods to which the city is subject after heavy winter rains, especially if the ground has been previously frozen, and therefore does not allow a normal amount of water to percolate.

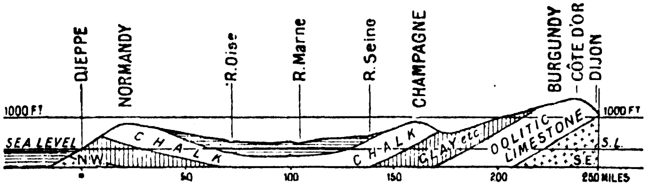
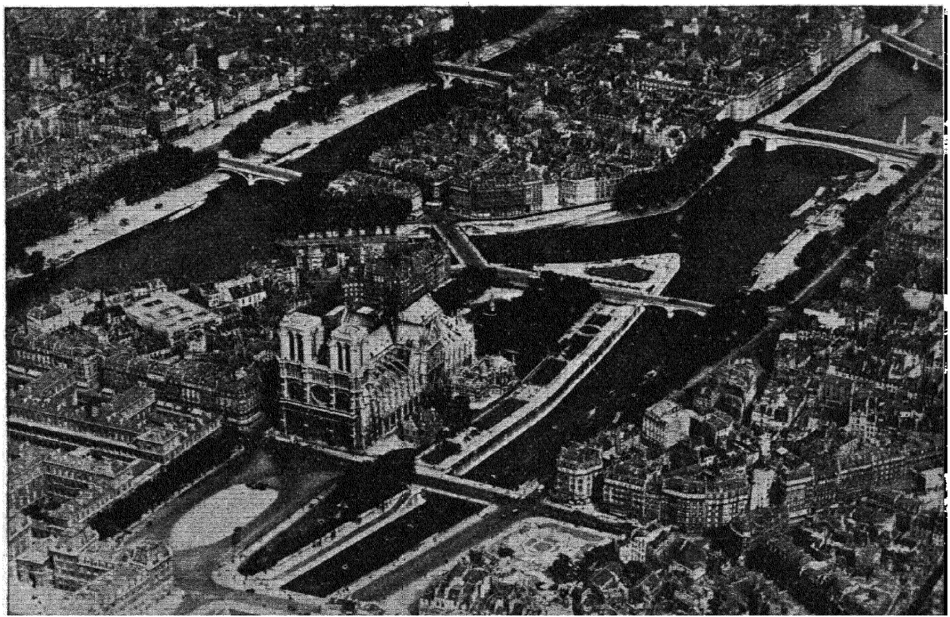


FIG. 51.—Rough Section across the Paris Basin from Dieppe to Dijon showing chalk escarpment of Champagne and limestone scarps of Burgundy.

The northern slopes of the limestone hills are thinly peopled, and as in Britain mainly used as sheep pasture, although to the north of the Marne the oolitic limestone, like that of the Cleveland District of England, is rich in iron ore, which will be referred to later. The clay vales of Champagne, with only moderate rainfall and summer temperatures higher than those in Southern England, produce fine crops of wheat, and together with the south-facing slopes of the chalk escarpment which



[*Photo: E.N.A.*

PARIS: THE CATHEDRAL OF NOTRE DAME, AND THE ISLAND IN THE SEINE ON WHICH THE CITY WAS FOUNDED.

overlooks them, produce the grapes which have made the Champagne region world-famous for its sparkling wines. *Reims* and *Epernay*, and other towns, grew up at the foot of the chalk, where springs of drinking water could always be obtained, and these towns have a woollen industry, based on the sheep pastures of the chalk, as well as their more famous wine trade. Large caverns excavated in the chalk make splendid cool dark dry cellars, where millions of bottles of champagne are stored till ready for market.

The Paris Basin, inside the ring of chalk hills, is again splendidly fertile and produces large crops of wheat, fruit and sugar beet. The lower part of the basin is the interesting old dukedom of Normandy, which played such an important part in English History for several centuries, and has left in our country many beautiful reminders in the shape of old Norman castles and cathedrals. The Paris Basin has not only many fine cathedrals of this type but also a large number of the later and more magnificent Gothic Cathedrals, such as those at Paris, Amiens and Reims, which testify to the wealth and skill as well as to the devotion of the people of this region in the Middle Ages.

Paris grew up as the great market centre of this region, an island in the Seine, near the confluence of the Marne (Fig. 52), giving a good defensive position for the early city. It has now extended to both banks of the river, and the city and its suburbs contain large numbers of buildings world-famous for their beauty or their historic associations. As the centre of the national road and railway systems, as well as of the river system of the region, it has become the commercial as well as the political capital of the country, and its population of three millions make it the centre of manufacturing industries of all kinds, especially those connected with luxury and art. A large barge traffic uses the Seine to Paris especially for the conveyance of coal from Britain, and building materials. But ocean-going vessels can only reach *Rouen*, the old capital of Normandy, and the larger ones use *Le Havre* as the port of Paris. This port receives shiploads of cotton from America for the textile industry of Rouen, which uses coal from Britain or from the northern coalfield of France as the source of power.

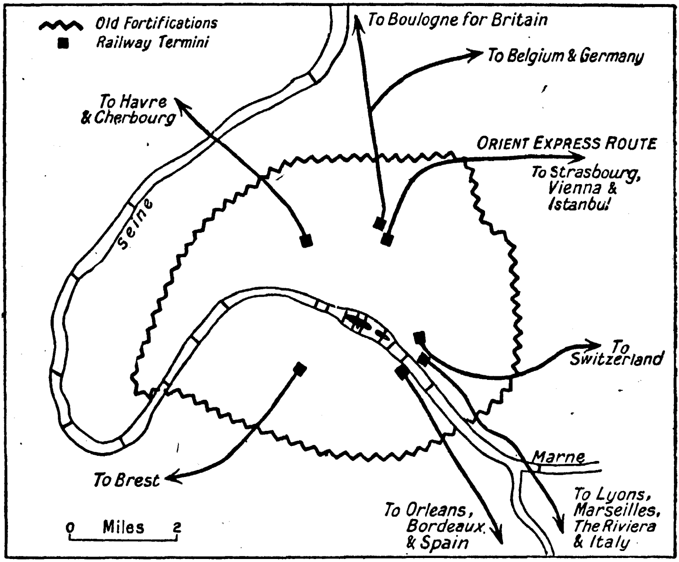


FIG. 52.—The site of Paris.—Note the island in the Seine, and the confluence of the Marne. Note also the railways radiating from Paris.

Le Havre also has an important packet service to Southampton, to which it sends fruit, vegetables and dairy produce. The packet stations of *Dieppe*, *Boulogne* and *Calais* should also be noted, with their corresponding English ports. These have a very large transit trade not only on account of the nearness of the two countries and their great mutual interests, but because they are links on the quickest route between London, the countries of Central and Southern Europe and the Far East. *Cherbourg*, with a good harbour on the Cotentin Peninsula, is an important port of call for large liners on the North Atlantic Routes.

THE NORTHERN COALFIELD

This, the largest industrial area of France, lies along the Belgian frontier, the coal-seams which supply the source of power for the factories being continuous with those of Southern Belgium and the German Ruhr Valley to the east, and those of Kent to the west. The coalfield has an output about as large as that of Lancashire and has similar industries. Wool from the Ardennes and from the chalk hills bordering the Paris Basin, and flax grown in the valleys of the Lys and Scheldt, led to textile industries which now also use Belgian and Russian flax, Australian wool and American cotton, imported through *Dunkirk*. The surrounding district is a rich corn land and also produces large supplies of sugar beet (Fig. 53).

Lille is the largest town of the coalfield, and besides its textile industries has sugar refineries, blast furnaces, using iron ore from Lorraine, and chemical works. Roads, railways and canals link it with Paris, Brussels and the Channel ports. Other towns of the coalfield include *Cambrai*, famous for its "cambric" linen, *Valenciennes* specializing in lace, *Amiens* and *St. Quentin* in cotton goods, *Roubaix* in woollens, *Arras* in tapestry. Most of these places and the whole of the region suffered very severely in the Great War.

THE EASTERN HIGHLANDS

These consist of the oolitic limestone ranges of Burgundy, Lorraine, and the French Jura, together with the older and harder rocks of the Vosges and the Langres Plateau. The hills of *Lorraine* contain the largest supplies of iron ore in Europe, and Germany and France fought for their possession in 1870–71 and 1914–18.

They are now entirely in French hands, but the coal of the Ruhr is the nearest available supply suitable for

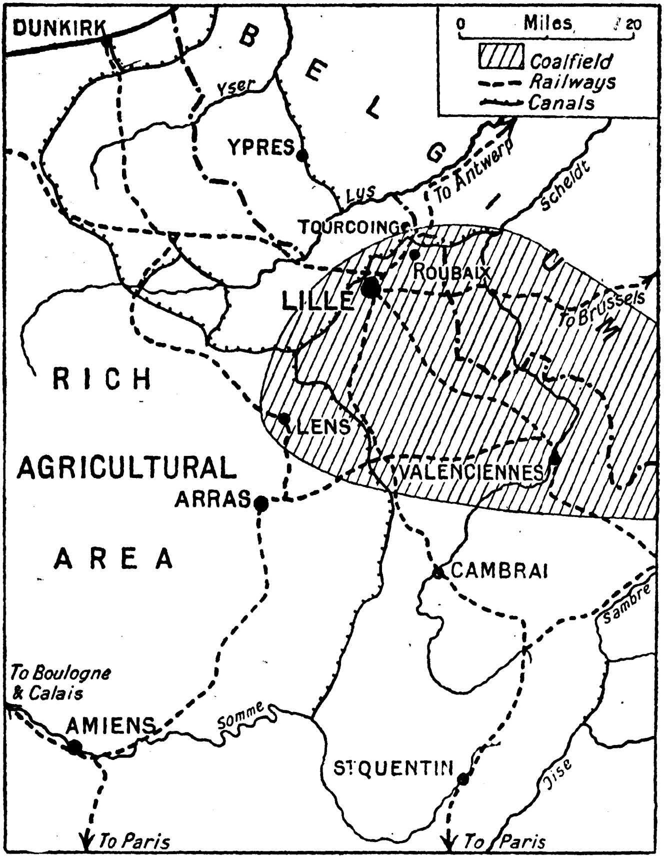


FIG. 53.—Chief centres and routes of the largest French coalfield and industrial area.

making the coke used in the blast furnaces where the ore is smelted. The valleys of the Moselle and the Rhine form the great links between these two areas. The Saar coalfield referred to above lies along the Saar tributary of the Moselle. Most of its coal, which does not make good coke, goes by canal to the Rhine to feed the textile and chemical industries of Alsace, the recently restored Rhine Province of France.

The south-facing slopes of the *Côte d'Or*, whose name means slopes of gold, are terraced with vineyards from which the famous Burgundy wines are obtained. As in Champagne and the Rhine Valley, the vines are trained up short poles, about 4 feet high, and all unnecessary leaves are cut away to allow the sun to ripen the grapes ; so that these vineyards have not the pleasing appearance given by the trailing vines in those of Italy. *Dijon*, situated where a gap between the Côte d'Or and the Langres Plateau gives access for road, railway and canal connecting the valleys of the Seine and the Saône-Rhone, is an ancient city and the chief centre of the Burgundy wine trade. The French Jura are mainly devoted to sheep pasture and contain no large towns.

The *Vosges* are more rugged and picturesque, and the western slopes, receiving heavy rainfall, are well timbered. The Vosges fall steeply to the Rhine Valley on the east and the many waterfalls have been harnessed to provide power for the textile industries of *Mulhouse* and other towns. These industries were based on the excellent sheep pastures of the drier eastern slopes of the Vosges, but cotton is now imported via the Rhine Valley and used in the mills. The valleys of this region and the adjoining Rhine lowlands are very fertile, growing fine crops of corn, grapes and tobacco, but the natural beauty and happiness of the region has been much spoilt by French and German enmity throughout the ages.

Strasbourg (Fig. 54) is the largest town of the region. It grew up where the Pass of Saverne through the Vosges made possible the construction of road, canal and railway connecting the Rhine Valley with the Marne and the Seine, past the great French fortress of Nancy, where the route crosses the Moselle. The railway is part of the great international Orient Express Route from Paris to Istanbul. It should be noted that Strasbourg is not on the Rhine but on the Ill, which runs parallel with the main stream over the floor of the Rift Valley. It has always been an important market town and has a famous Cathedral. Notice also the route to *Mulhouse* and thence through the Gate of Belfort, between the Vosges and the Jura, to the Doubs and thus to the Saône-Rhone Valley. This route is also followed by road, rail, and canal, and was the route by which the Romans entered the Rhine Valley in ancient days.

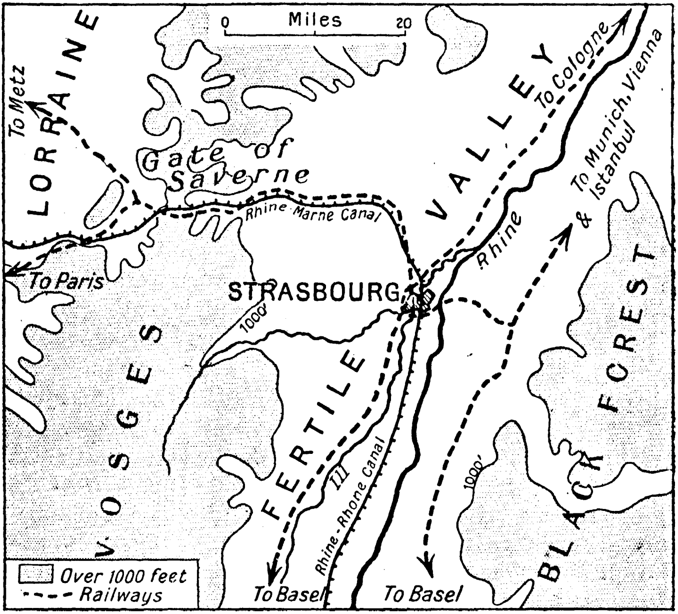


FIG. 54.—The site of Strasbourg.

THE RHONE VALLEY

This narrow rift valley, between the Alps on the east and the Cevennes escarpment of the Central Plateau on the west, has always been important. The alluvial plain along the Rhone is very fertile, and the climate is very similar to that of the Mediterranean region, with sufficient rainfall, mainly in winter, and hot dry summers that bring corn and fruit to perfection, so that the valley has always been able to support a considerable population in conditions that favoured intellectual advancement. Then also it was the main highway for the civilizing influences from the Mediterranean, especially of the Romans, to penetrate the country. Roman aqueducts, amphitheatres, and triumphal arches, still remain in many old cities of the valley, such as Nîmes and Arles, as reminders of their occupation. In later days, when the Popes were driven from Rome in the fourteenth century, they made their home at Avignon, where the old Papal Palace may still be seen.

The delta of the Rhone, built up in the tideless Mediterranean, is unhealthy and not very fertile, so that although there is some fishing in the lagoons, and cattle and horses graze on the pastures in drier parts, the population of this part is scanty. But on reclaimed areas of the delta, and as far up the valley as Montélimar, the typical fruits of the Mediterranean, including the orange and olive, flourish. These two plants do not thrive farther north, but the vine and mulberry are important right through the valley. The latter has led to a thriving silk industry centred at *Lyons*, which is the greatest silk-manufacturing centre in the whole world, and now imports raw silk from Italy, China and Japan, to add to local supplies of the raw material. Power for the silk-mills is derived partly from the coalfield around St. Etienne, on the eastern slopes of the Central Plateau, and partly from electricity derived from waterfalls in the Upper Rhone and other valleys of the Alps. Lyons, the old Roman capital, is still the third largest city of France, and owes its growth largely to its central position in the Saône-Rhone Valley at the confluence of the two rivers. The railways which converge upon it from the three river valleys and from the plateau add to its modern commercial importance.

Marseilles (Fig. 55) is not only the great outlet of this fertile region, but is also the chief seaport of France. The delta offered difficulties for harbour construction, and a westward-flowing current blocked up harbours to the west of the delta, such as *Cette*, with silt brought down by the Rhone, so that the first good harbour to the east of the delta was destined to be the site of a great port. Marseilles was established there as a colony by the Ancient Greeks, and has increased in importance ever since that time. It only suffered a relative decline, together with other Mediterranean ports, when Vasco da Gama discovered the Cape Route to the East, but it has more than made good its loss since the opening of the Suez Canal. Many English liners for the Far East call at Marseilles to pick up passengers who have saved six days by travelling "overland" from London via the Channel packet-routes and the Paris, Lyons and Mediterranean Railway. The absence of tides in the Mediterranean enables ships to enter the port at all times and to load and unload at open wharves. Marseilles has always been important for the export of silk, wine and olive oil, and as a by-product of the last industry has developed a big manufacture of soaps. This industry now also absorbs the produce of large quantities of oil-seeds imported from the Far East. The scent industry of the city is based on the prevalence of flowers along the Mediterranean coast. It also has a large trade with the important French possession of Algeria, from which it receives wine, dates, cereals and iron ore, in exchange for French manufactured goods.

The Alps and the Riviera

This region owes its importance to its magnificent and varied scenery, which attracts tourists from all parts of the world. The snow-clad peaks, the glaciers, the rugged and picturesque Alpine valleys and lakes attract visitors at all seasons. *Chamonix*, in a valley at the foot of Mont Blanc, whose summit, three miles above sea-level, is the culminating point of the Alps, is the best known of many famous resorts, while *Grenoble*, high up in the valley of the Isère, is the largest town among the French Alps. It has an important glove industry, using the skins of the chamois and other goats of the lower slopes of the Alps. Economically the passes are perhaps the most important features of the region, although the recent developments of "white

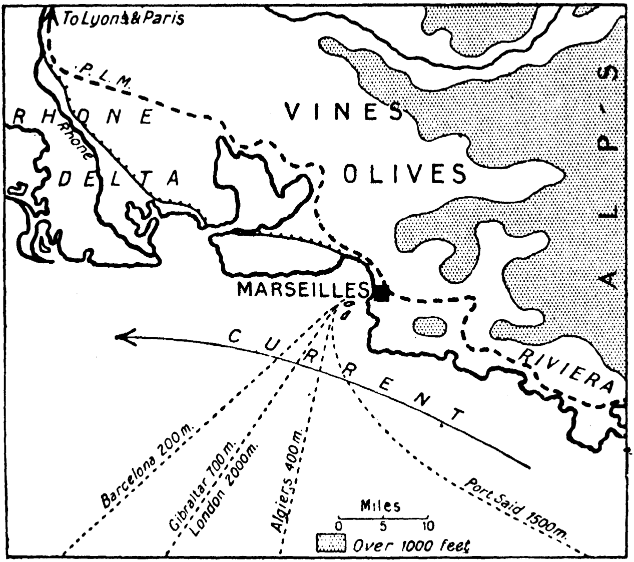


FIG. 55.—Factors in the growth of Marseilles.

coal," as the French call the water power provided by the melting snows and steep slopes, should not be overlooked. The roads over the passes of the Little St. Bernard and Mt. Cenis have been used for centuries by traffic between France and Italy; and the railway tunnel under the Mt. Cenis is very important indeed, not only for the two countries it links, but as part of the great overland route from London to the Far East via Brindisi.

The Riviera is a famous winter resort, especially of wealthy foreigners. Between the blue Mediterranean and the picturesque lower slopes of the Alps, which, facing south, get a maximum amount of heat from the sun, while keeping out cold winds from the north, it has great attractions for those who would escape the chilly dampness and cloudy skies of a northern winter and can afford to do so. There is sufficient rain to clothe the hill-sides with verdure. Sub-tropical palms flourish among olives, orange and lemon trees, and gardens are full of beautiful flowers in the early months of the year. Small fishing villages have developed into large towns with broad promenades, huge hotels, magnificent villas and palatial gambling dens known as casinos. *Cannes*, *Nice*, *Monaco* and *Mentone* are among the better known of these; and the road called the Grand Corniche, connecting them, is one of the most beautiful and famous in the world. Monaco is an independent principality, the whole of whose income is derived from the reckless gamblers of Monte Carlo.

Toulon is the chief French naval station on the Mediterranean, and *Grasse*, inland from Cannes, has an important scent-making industry.

THE CENTRAL PLATEAU

This is the core of old hard rocks around which France has been built up. It descends by the high and steep escarpment known as the Cevennes to the south-east and slopes more gently to the north and west. The plateau is surmounted by many ancient volcanic cones known as "puys," some of which, such as the Puy de Cantal and Mt. Doré, rise over 6,000 feet. In the neighbourhood of some of these mineral springs have given rise to spas such as *Vichy.* Owing to its elevation its winters are rather severe, and the plateau is one of the most thinly-peopled regions of France. In the wetter north-west cattle are reared, but in the south and west, where the commonest rock is a porous limestone, sheep are more common. In the latter part of the plateau there are, as usual in limestone country, many caverns and underground streams, and the rivers Lot and Tarn have excavated deep and picturesque gorges. The most thickly-peopled parts of the Central Plateau region are the two rift valleys occupied by the upper courses of the Loire and its tributary the Allier. These have rich soil, partly alluvial and partly loess, due to volcanic dust blown from the plateau, and they produce fine crops of corn and vines.

Limoges, in the upper valley of the Vienne, has an important cattle market and leather industries, with also a porcelain industry using the kaolin formed from the weathered granite of the plateau. *Clermont Ferrand* is another large market town which has also established a modern automobile industry, and *Le Creusot* with local supplies of coal and iron has machine and armament factories.

St. Etienne is the largest town of the plateau, being on the largest coalfield of the region. It has important iron and steel works and shares the silk industry of Lyons.

The Basin of the Garonne

This is a very fertile region which in the Middle Ages constituted the independent kingdom of Aquitaine. The valleys of the Garonne and its tributaries are all very productive of cereals, tobacco and vines, and this is one of the great wine-producing areas of France, producing much of the ordinary wine which is the everyday drink of the French, and also better qualities which find a good market in Britain and other foreign countries. The narrow pass between the Central Plateau and the Pyrenees is called the Gate of Carcassonne, and is the route by means of which the Romans entered Gaul, as Western France was called. *Carcassonne,* which guarded the route, was an important city in all the early struggles of the region, and its encircling mediæval walls and towers still stand.

The coast along the Bay of Biscay is interesting. It consists of a line of sand dunes, behind which are a line of salt lagoons called étangs, famous for their oyster fisheries. A little farther inland is "the Landes," a broad belt of pine forest, planted to prevent the sand dunes from further encroachment on the fertile plain. The trees provide timber and also resin, obtained from the pines in much the same way that rubber is obtained from rubber trees. Owing to the marshy and sandy nature of the region all the inhabitants are expert in the use of stilts, without which travelling is difficult. In the extreme south is the fashionable seaside resort of *Biarritz.* Added to the usual attractions of such places it offers a sight of the fishing villages of the Basques, an independent people differing in race and language from all other Europeans, excursions to the glaciers and "cirques," or old glacier basins, of the Pyrenees, to the famous grotto of *Lourdes,* the centre of Catholic pilgrimages, and to the historic city of *Bayonne.*

Bordeaux is the largest city and seaport of the whole region, and the fourth largest city in France. It grew up at the tidal limit and lowest bridge point of the Gironde estuary, and is the collecting centre for the "clarets" of the famous vineyards of the Garonne Basin. The main line of railway from Paris to Madrid here crosses the river and another route leads through the Gate of Carcassonne to the Mediterranean coast. Bordeaux is also a fishing port, and a big importer of coal, especially from South Wales, in return for its great export of wines.

Toulouse (Fig. 56), another large and ancient city, is a great market for the wheat, wine and tobacco of the region. It owes much of its importance to its control of the Carcassonne route, now followed by road, railway and canal, connecting the Garonne with the Mediterranean. The main route is also crossed by the railway which comes south along the western edge of the plateau and follows the Upper Garonne into the tourist resorts of the French Pyrenees.

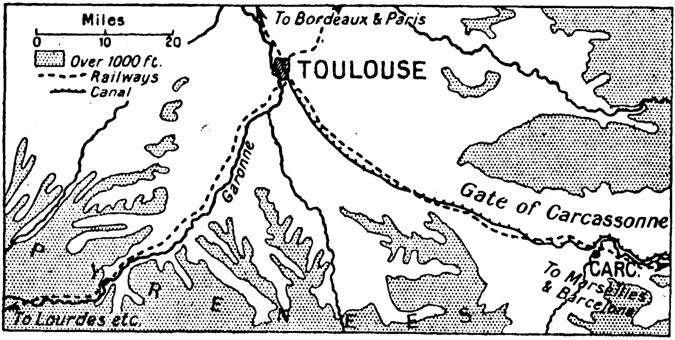


FIG. 56.—The site of Toulouse.

THE LOIRE BASIN

This is the richest agricultural region of France. Covered with fertile soil, well watered by rivers from the plateau, receiving sufficient but not too much rainfall from the Westerlies, which temper the heat of summer and the cold of winter, this is indeed a smiling land of woods, meadows and fields, with picturesque villages, prosperous market towns, glorious mediæval castles and cathedrals, and handsome residential "châteaux." The lower part of the river is, however, subject to floods, when the snows melt on the Central Plateau in early springtime.

Orleans, where the great south road from Paris crosses the Loire, is the most famous historic town of the region, but it is now surpassed in size by several cities lower down the river. Orleans is always connected with the heroic exploits of St. Joan of Arc. There are very famous cathedrals at *Tours* and *Bourges*, and castles at *Blois* and *Angers*. Tours is an important junction of rivers, roads and railways, the route leading south through the narrow Gate of Poitiers having been contested many times in history.

Nantes is the largest town and chief seaport of the region, but its trade is small, as the region is practically self-supporting in the matter of foodstuffs and has no manufacturing industries of importance. *St. Nazaire*, lower down the estuary of the Loire, and *Rochelle*, on the coast, share the trade.

BRITTANY

This is a very distinct region of France and its projecting peninsular esembles in many ways the corresponding land of Devon and Cornwall in Britain. It is a region of bleak and barren granite moorlands, with rugged coast and fertile intervening valleys. Its heavy rainfall, due to its general elevation and exposure to the Westerlies from the Atlantic, tend to make pastoral industries more important than agriculture, but in the more sheltered valleys crops of the hardier cereals and fruits are raised. Thus, like Devonshire, it is famous for its dairy produce, and cider here replaces wine as the common beverage. Its mild winters, like those of Cornwall, the Scilly Isles and the neighbouring Channel Islands, favour the growth of early flowers and vegetables, many of which reach the English market.

Fishing is of course an important industry, especially from the villages along the English Channel; and the similar dialects of Cornwall and Brittany enable the fishermen from the two shores to understand each other when they meet at sea. Breton sailors go to the fisheries of the Grand Banks of Newfoundland and to the whale fisheries in Polar seas. As in the western highlands of Britain so in Brittany live descendants of the oldest inhabitants of the country, and there are here many relics of ancient man similar to the stone circles of Dartmoor and Stonehenge. The Breton and Welsh languages also have many similarities.

Most of the fishing and farming villages are quite small, but *Rennes*, centrally situated where the roads following the north and south coasts converge, is a market town of considerable size mainly built of granite. *Brest*, on a fine natural harbour at the entrance to the English Channel, is an important naval station corresponding to the English Plymouth. *St Malo*, which also collects dairy produce, flowers and vegetables for export, and *Mont St. Michel*, with its abbey crowning a rock that is cut off from the mainland at high tide, like St. Michael's Mount in Cornwall, are much visited by English tourists.

COMMUNICATIONS AND COMMERCE

All these varied regions of France are closely linked up by fine systems of roads, canals and railways. Great national roads, usually with cobbled surface and lined with tall trees, radiate from Paris in straight lines in all directions. Built to enable troops and armaments to pass rapidly to any part of the country, they are now very important commercially with the increased use of petrol-driven vehicles. The French canal system is also very complete, and Fig. 57 shows that it is possible to pass in this way from any one of the great French rivers to any other. On the northern coalfield there is a considerable network of canals (Fig. 53), and indeed the waterways are mainly used for the transport of coal, iron ore and other bulky products. The 6,000 miles of navigable rivers and canals carry about a fifth of the total tonnage of internal trade.

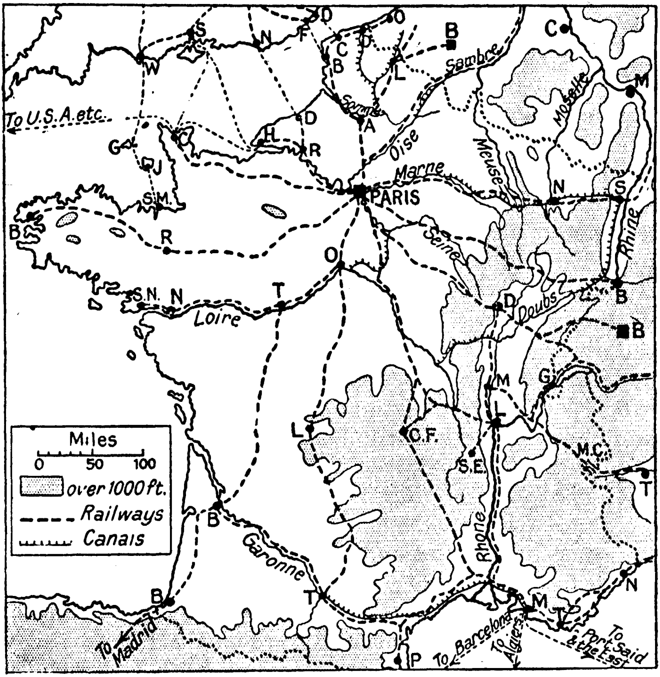


FIG. 57.—Chief Railways and Inland Waterways of France.

The chief railways have been built to bring the capital into touch with the outlying parts of the country, and to link other inland centres with the coast. About a quarter of the total mileage is owned by the State, and the Government has decided to electrify the whole French railway system as soon as possible. Follow on the map the most important routes.

1. *The Northern Railway* does most of the heavy transport work of the northern coalfield, connecting the industrial centres with the Channel ports. It links Paris with the packet stations of *Calais* and *Boulogne* through *Amiens* and the fertile cornlands of Picardy, and it serves the important routes from Paris which link up with those across the Central Plain of Europe.

2. *The Paris, Lyons and Mediterranean Railway* is the longest in France. It crosses the fertile Paris Basin by the valleys of the Seine and Yonne, tunnels through the Côte d'Or to the Burgundy wine country round *Dijon*, descends the Saône Valley to *Maçon*, where the important branch for the Mt. Cenis tunnel and Italy leaves the main line, which follows the Rhone Valley southward to *Lyons*, *Marseilles* and the resorts of the Riviera. This railway is well known to British tourists visiting Switzerland and the South of France, and to those who shorten with its help the long routes to India and the Far East.

3. *The Paris-Orleans Railway* runs through the garden of France to the important cities of the Loire, and also by *Tours* and the Gate of Poitiers to *Bordeaux*.

4. *The Southern Railway* continues this route from *Bordeaux* to *Bayonne* and the Spanish frontier, with branches to *Biarritz* and the Pyrenees holiday resorts. It also sends another line through *Toulouse* and the Gate of Carcassonne to *Narbonne* on the Mediterranean, from which branches go northward to the Rhone Valley and southward to *Perpignan* to link with the Spanish railways.

5. *The Eastern Railway* is the first section of the famous Orient Express Route from Paris to Istanbul. It follows the Marne through Champagne, serves the iron-fields of Lorraine, crosses the Moselle at *Nancy*, and then follows the Pass of Saverne through the Vosges to *Strasbourg* and the Rhine. It has important branches (*a*) through Champagne and the Meuse Valley; (*b*) through

the Saar coalfield and the Moselle Valley ; and (*c*) through the Gate of Belfort to the upper Rhone Valley and Switzerland.

6. *The Western Railway* connects Paris (*a*) via Rouen to its great seaport, *Le Havre* ; (*b*) to the packet station of *Dieppe* for London via Newhaven ; (*c*) to the liner port of *Cherbourg* for America ; and (*d*) through Brittany to the naval station of *Brest.*

The commerce of France is not nearly so great as that of Britain as she is far more nearly self-supporting in the matter of foodstuffs, and has much smaller manufacturing industries owing to her relatively small supplies of coal. The agricultural land of France covers a much greater proportion of the country than is the case in Britain, and it is much more subdivided into small holdings worked by the peasant proprietors and their families. Thus more than half the French people live in small villages, and while Britain only grows about a fifth of its necessary wheat supply, France grows four-fifths of hers. On the other hand France has to import nearly half the coal she uses, while Britain is a large exporter of coal. Like Britain she needs to import all the petroleum she uses, and her other chief imports are cotton, wool and oil seeds as raw materials for the industries of her coalfields. Her principal exports in value are cotton and silk goods, chemicals, and iron and steel.

QUESTIONS AND EXERCISES

1. Compare the local and national government of France with that of Britain.
2. Why does France suffer less from " unemployment " than Britain does ?
3. Plan a month's holiday tour in France, giving reasons for the itinerary you select.
4. Use the following climatic data to compare the climate of Paris with that of Marseilles and each with that of your own district. The figures show the mean January and Julv temperatures

in degrees Fahrenheit and the mean seasonal rainfall in inches, starting with Spring.

Paris : 36, 66—5, 6, 6, 5.
Marseilles : 44, 72—5, 3, 9, 6.

5. Why is water power of greater relative importance to France than to Britain ?

6. When cyclones pass along the Mediterranean, the lower Rhone Valley and the Riviera often experience an unpleasant cold wind from the Alps called the mistral. Why is this ? How and why does it differ from the föhn of Switzerland ?

7. What do you understand by the expression " natural region " ? Is a river basin always a natural region ? Give examples.

8. Compare the site of London with the site of Paris.

9. Draw sketch-maps showing reasons for the growth of Lyons, Dijon, Rouen, Bordeaux.

10. Draw a section across France, east and west through Bordeaux, and name the natural regions which the section indicates.

11. What justification is there for speaking of " The Cornish Riviera " ? What region of France is more like Cornwall than is the French Riviera ? In what ways ?

12. Show how it is possible to travel from Le Havre to Marseilles by inland waterways.

13. Make a list of the available routes from London to Paris, and compare them as to time, distance and cost.

14. The chief articles of French trade in 1932 were as follows, values being in millions of francs.

Exports : Chemicals, 1,802 ; Iron and Steel, 1,055 ; Cotton Goods, 972 ; Silk Goods, 898 ; Motor Cars, 549 ; Wine, 425 ; Soaps and Perfumes, 317. Total, 19,693.

Imports : Cereals, 2,855 ; Coal and Coke, 2,402 ; Wine, 2,317 ; Oil Seeds, 1,333 ; Petroleum, 1,294 ; Wool, 1,270 ; Cotton, 1,138 ; Machinery, 1,076 ; Coffee, 1,022. Total, 29,826.

What do these figures indicate ? How do they differ from figures for British trade ?

15. The chief sources of the above imports and destinations of exports were as follows :

Imports from French Colonies, 6,220 ; Germany, 3,619 ; U.S.A., 2,918 ; U.K., 2,457 ; Belgium, 2,440.

Exports to French Colonies, 6,202 ; Belgium, 2,241 ; U.K., 1,962 ; Germany, 1,690 ; Switzerland, 1,511.

Comment on these facts.

CHAPTER XXV

BRITAIN AND EURASIA

In the first book of this series we learnt something of our own country, and in the last book we shall return to study it more fully, but we may well spend a short time in studying the relations that have existed throughout the course of history between Britain and the great continent that lies nearest to it.

The narrow and shallow seas which separate us from Europe suggest that at one period, the "Continental Shelf," of which the British Isles are just the upstanding portions, was all above sea-level, so that the plains of England and Ireland were continuous with the great plain of Eurasia. The similarity of the remains of prehistoric men and animals in both areas suggest the same thing, for even if primitive man may have been able to cross the sea, which is very unlikely, it is very certain that great animals like the mammoth could not have done so.

A study of the rocks of the British Isles, as compared with those of neighbouring parts of the mainland of Europe, shows us also striking similarities. The ancient granites and other hard rocks of Norway have their counterpart in the Highlands of Scotland and North-west Ireland, while the lowlands of Denmark, Germany and Holland, with their glacial coverings of boulder clay, are very like those of East Anglia. Bold chalk cliffs overlook the Strait of Dover from both the English and the French side, while the recently discovered coal-fields of Kent are probably continuous beneath the sea with those of Northern France, Belgium and the Ruhr. The Basins of London and Hampshire, where in each case a depression filled with clays and gravel lies within a containing layer of chalk, whose rim stands up in the treeless Downs, remind us of the similar Paris Basin; while the rugged peninsula of Devon and Cornwall, with its high bare granite moorlands, and its fertile intervening valleys, is exactly similar to Brittany across the Channel.

Even after the separation of the British Isles from Europe had been effected by the flooding of the North Sea and English Channel, those seas were not sufficiently wide to cut off the islands from invasion by hardy peoples from the mainland. Indeed, the early history of Britain is the story of successive invasions from the Continent by races who have added something to the common stock of people, knowledge and ideas which have gone to the making of the British nation of to-day.

For what we know of the inhabitants of these islands before the Romans visited them in the first century before Christ we are indebted to the researches of archæologists. These investigations have shown that the country was probably invaded by wave after wave of primitive people who got their living by hunting wild animals in the forests and used natural caves as their shelters. The weapons and tools of the earliest people were of crude chipped flints obtained from the chalk; later peoples were more skilful, but still worked in stone; but they were finally overcome by peoples who had learnt to smelt metals and could make finer implements of bronze. These last were probably people of the Alpine Race, judging by their round skulls, and they also most likely introduced the domestication of cattle. While these folk were in possession of the land Britain appears to have been visited by the Phœnicians, the people who preceded the Greeks as the great power in the Mediterranean. They came to buy up furs of the forest animals, and copper and tin from Cornwall, to assist them in their bronze industry, for which they were famous, giving in exchange the dyed woollen cloth, which was another of their specialities.

The Phœnicians, however, seem to have made little, if any, lasting impression on the country, which continued to receive wave after wave of half-civilized skin-clad invaders from across the Dover Strait, such as the Gaels and the Britons whom Julius Cæsar found in possession when he arrived with his Romans in B.C. 55, having previously conquered France, or Gaul as it was then called. In their five centuries of occupation the Romans reduced the south-east of Britain to law and order, laid out the great system of roads many of which remain to this day, improved and extended agriculture and mining, built houses and walled towns, and constructed defensive works against the tribes they could not subdue. But Rome itself at last fell before the Germanic peoples of Central Europe, who were themselves hard pressed by invaders from the Asiatic Steppes. With the withdrawal of the Romans from the British outpost of their great Empire this country also became a prey to Germanic peoples who had reached the North Sea coasts. Jutes from Jutland, Angles from the right bank of the Elbe, and Saxons from the left bank, descended upon the east and south coasts of Britain, first to plunder and then to colonize. To these Anglo-Saxons we owe most of our language, and many of our ideas of agriculture and of local government.

Before the Roman Empire fell it had gradually adopted Christianity, which spread from Jerusalem by the preaching of the apostles, especially St. Paul, who died in Rome. Although the temporal power of the Empire declined, the power of the Church steadily increased, spreading throughout the extent of the Empire and beyond it. It became firmly established in Britain after the visit of St. Augustine at the end of the sixth century.

The control of Britain by the Saxons was contested by the Norsemen, the hardy sailors from the fiords of Norway, who descended upon all the coasts of Britain, mainly to plunder, but in some cases making settlements.

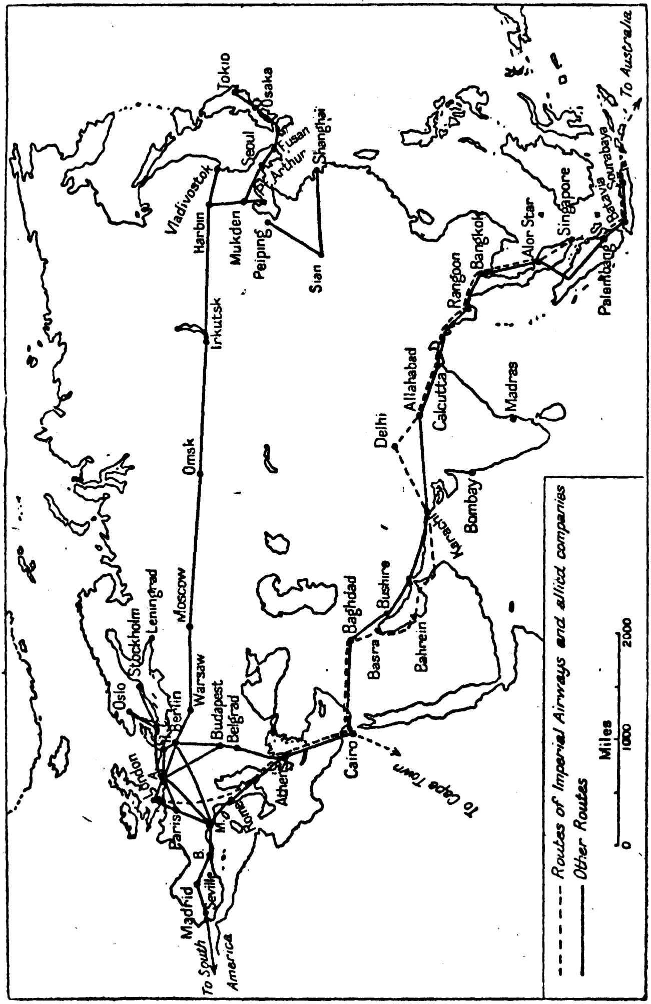
They even sacked London, and for a time Britain was ruled by so-called Danish kings. The Norsemen, however, left little permanent impression on the country except a few place-names along the coast; but perhaps it is from them that we have derived the seamanship which has been such a great factor in the history of the British people. The descendants of the Norsemen who settled in Normandy across the English Channel were destined to play a much greater part in British history, for the Norman Conquest of England in A.D. 1066 had very important results. The Normans, by their centuries of residence in France, had come in contact with many civilizing influences from the Mediterranean, and were far more advanced than the Anglo-Saxons in their ideas of architecture, art and literature, industry and commerce, government and warfare, so that Britain in the long run learned much from them. Since their time no foreign invaders have landed in Britain, and the relative isolation of the country enabled it to avoid the worst results of most of the devastating wars which have troubled the Continent. But the narrow seas were no hindrance to peaceful commerce, and Britain benefited not only from the trade but from the exchange of ideas with the foreign peoples with whom she thus came in contact.

At first these islands were just great exporters of wool, especially to Flanders, where the Flemings had built up a great textile industry and many flourishing towns based upon it. The wool was exchanged for fine cloths from Flanders, fruits, wines and olive oil from France, Spain and Portugal, spices and other oriental luxuries bought from the merchants of Venice and Genoa. These last had come either by Arab ships to Suez or by camel caravan across the deserts of Persia and Syria to the ports of the Eastern Mediterranean, where they were purchased by the merchants of the great commercial cities of Italy for distribution in Europe.

Some trade was also carried on with the merchants of the Hanseatic League, which controlled the trade of the ports around the North and Baltic Seas. These exchanged English wool for forest products such as bowstaves, pitch and tar, while hempen rope, iron and bacon were also sent to Britain. This more or less "local" trade with Europe gave British seamen their apprenticeship to the seas, which enabled them to take full advantage of the prospects which opened out with the great maritime discoveries of the fifteenth and sixteenth centuries. They followed hard on the heels of the Portuguese and Dutch adventurers into the Indian Ocean by the Cape Route, and had soon established the trading companies which led to the British control of India and the Malay States, which are so important to us to-day.

British commerce, which consisted in the first place mainly of an export of raw material—wool—in exchange for manufactured goods and luxuries, was destined to undergo a marked change when Flemings, seeking refuge from religious persecution, were welcomed in East Anglia and introduced the finer arts of weaving wool and flax, and later of cotton introduced from India by way of the Mediterranean. This was followed in the eighteenth and nineteenth centuries by the rapid development of spinning and weaving machines, invented by British engineers, and driven by British-built steam engines, utilizing our vast supplies of coal and iron. Thus Britain grew rapidly to the position of the greatest exporter in the world of manufactured goods, and the greatest importer of raw materials and foodstuffs to feed the industries and the workers who carried them on.

Although, with the rapid development of America, Eurasia is relatively rather less important than it used to be, it is interesting to note that in 1931 over a third of all British imports came from various countries of



SOME IMPORTANT AIR-ROUTES OF EURASIA.

Eurasia, while that continent also purchased considerably more than half of all our exports.

QUESTIONS AND EXERCISES

1. Name the packet stations of Britain from which run regular services to European ports. State the corresponding ports and the length of each route.

2. Name the chief steamship lines which connect Britain with ports of Eurasia. Mark on a map the routes followed and give some account of the trade which passes in each direction.

3. What are the chief air routes between Britain and different parts of Eurasia? How do they differ from the rail and steamship routes in each case? What are their relative advantages?

4. If the bed of the seas around Britain were raised 100 fathoms, how would the British rivers then be related to those of neighbouring parts of Europe?

5. What articles imported into Britain are chiefly obtained from Eurasia? From what parts of the continent does each come?

6. Name some places in Britain whose names are of Roman, Saxon, Danish and Norman origin respectively.

7. What civilizing influences, if any, does Eurasia owe to Britain?

MISCELLANEOUS REVISION EXERCISES

1. Compare and contrast the physical features of Eurasia with those of North America.

2. Can you suggest any reasons why there are so many political divisions in Eurasia and so few in North America?

3. What regions of North America experience anything similar to (*a*) the Monsoon climate of S.E. Asia and (*b*) the climate of the Mediterranean Region? Point out and explain the more striking differences between the corresponding regions in each case.

4. What seaports of Eurasia are somewhat similarly situated to Vancouver, Boston, San Francisco, New Orleans and Havana? Point out any further similarities or differences between the corresponding places.

5. Calculate the difference in local time between the Hook of Holland and Vladivostok. Compare it with the time difference between San Francisco and New York. What time is it at each of these places when it is noon in London?

6. Compare a section of the earth's surface along the meridian of 90° E. with one along the meridian of 90° W.

7. Mention any places in North America and in Eurasia in which the sun is at the same angular distance above the horizon

at midday as it is in London. What is this angle at the equinoxes, on midsummer day, and on midwinter day respectively?

8. Why is the Atlantic trade between Eurasia and North America so much greater than the Pacific trade? Compare the trade in the two cases.

9. Name any countries and cities which are crossed by the Tropic of Cancer. Why have these places not all a similar climate?

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